

TESTED: Drum Sanders for the Small Shop

AMERICAN[®] WOODWORK

#93 April 2002

www.americanwoodworker.com

Finishing Cherry

Four Recipes
that *Guarantee*
Success

Folding Shop Table

Go Ahead, Pound on It!
This is One Tough Table

PLUS

- Craftsman-Style Outdoor Chair
- Traditional Jewelry Box

\$3.95 U.S. / \$4.95 CAN



A READERS DIGEST PUBLICATION



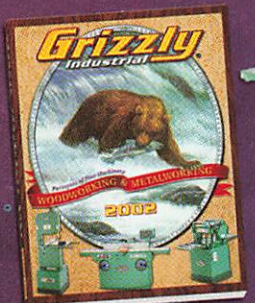
Actor Dan Haggerty
with Ben, Stars of
"Grizzly Adams"



"I love dealing with
Grizzly Industrial.
They have excellent
products and stand
behind everything
they sell."



"Please, can we buy
it, honey?"



CALL TODAY FOR YOUR
FREE 468 PAGE
COLOR CATALOG

395001658

Grizzly Industrial®

PURVEYORS OF FINE MACHINERY™ – SINCE 1983

MODEL G8794 12½" PORTABLE PLANER

- 2 H.P., 110V MOTOR, 15 AMPS
- CUTTERHEAD SPEED: 8,540 R.P.M.
- FEED RATE: 25 F.P.M.
- NUMBER OF PUTS PER INCH: 57
- MIN. BOARD THICKNESS: 3/16"
- MAX. CUTTING WIDTH: 12½"
- MAX. CUTTING HEIGHT: 6"
- MAX. CUTTING DEPTH: 1/8"
- APPROX. SHIPPING WEIGHT: 85 LBS.



**ONLY
\$289⁹⁵**

\$30 SHIPPING
ANYWHERE IN LOWER 48 STATES

FREE STAND
INCLUDED WITH G8794 PLANER
(700LB. CAPACITY)

MODEL G1021Z 15" PLANER W/ CABINET STAND

- 3 H.P., 220V, SINGLE-PHASE MOTOR
- PRECISION GROUND CAST IRON BED
- CUTTERHEAD SPEED: 5000 R.P.M.
- RATE OF FEED: 16 F.P.M. & 20 F.P.M.
- MAX. CUTTING WIDTH: 14½"
- MAX. CUTTING HEIGHT: 6½"
- MAX. CUTTING DEPTH: 1/8"
- NUMBER OF KNIVES: 3
- ALL BALL BEARING CONSTRUCTION
- APPROX. SHIPPING WEIGHT 540 LBS.



**ONLY
\$995⁰⁰**

\$125 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1033 20" PLANER

- 3 H.P., 220V, SINGLE-PHASE MOTOR
- TABLE IS PRECISION-GROUND TO A MIRROR-LIKE FINISH
- CUTTERHEAD SPEED: 4833 R.P.M.
- RATE OF FEED: 16 F.P.M. & 20 F.P.M.
- MAX. CUTTING WIDTH: 20"
- MAX. CUTTING HEIGHT: 8½"
- MAX. CUTTING DEPTH: 1/8"
- NUMBER OF KNIVES: 4 H.S.S.
- HEAVY-DUTY CAST IRON CONSTRUCTION
- APPROX. SHIPPING WEIGHT: 785 LBS.



**ONLY
\$1,295⁰⁰**

\$150 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1182HW 6" x 47" JOINTER WITH HANDWHEELS

- 1 H.P., SINGLE-PHASE, 110/220V MOTOR (PRE-WIRED TO 110 V)
- HEAVY-DUTY ONE PIECE STEEL STAND W/BUILT IN CHIP CHUTE
- PRECISION GROUND CAST IRON BED
- SUPER HEAVY-DUTY, CENTER-MOUNTED FENCE - POSITIVE STOPS @ 45° & 90°
- 3 KNIFE BALL BEARING CUTTERHEAD
- TABLE SIZE: 6" x 47"
- 1/2" RABBETING CAPACITY
- APPROX. SHIP. WEIGHT: 215 LBS.



**FREE
PAIR OF SAFETY
PUSH BLOCKS**

**ONLY
\$325⁰⁰**

\$55 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1182ZX 6" x 47" HEAVY-DUTY JOINTER

- 1 H.P., SINGLE-PHASE, 110/220V MOTOR (PRE-WIRED TO 110 V)
- HEAVY-DUTY ONE PIECE STEEL STAND W/BUILT IN CHIP CHUTE
- PRECISION GROUND CAST IRON BED
- RE-DESIGNED FENCE SYSTEM - POSITIVE STOPS @ 45° & 90°
- 3 KNIFE BALL BEARING CUTTERHEAD
- TABLE SIZE: 6" x 47"
- 1/2" RABBETING CAPACITY
- APPROX. SHIPPING WEIGHT: 235 LBS.



**FREE
PAIR OF SAFETY
PUSH BLOCKS**

**ONLY
\$475⁰⁰**

\$55 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1018HW 8" x 65" SUPER HEAVY-DUTY JOINTER

- 3-KNIFE CUTTERHEAD IS 3" IN DIA. AND RUNS IN SHIELDED, PRE-LUBRICATED BALL BEARINGS
- POWERFUL 1½ H.P., 220V SINGLE PHASE MOTOR
- EASILY FLOWS THROUGH HARDWOODS
- MAXIMUM DEPTH OF CUT IS 1/2" & INFEEED TABLE HAS RABBETING LEDGE
- SUPER HEAVY-DUTY CAST IRON BED
- APPROX. SHIPPING WT. 450 LBS.



**FREE
PAIR OF SAFETY
PUSH BLOCKS**

**ONLY
\$695⁰⁰**

\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1035 1½ H.P. SHAPER

- 2 INTERCHANGEABLE SPINDLES: 1/2" AND 3/4"
- HEAVY-DUTY 1½ H.P., 110/220V MOTOR
- TWO SPINDLE SPEEDS: 7,000 AND 10,000 R.P.M.
- SPINDLE OPENINGS: 1½", 3½", AND 5"
- PRECISION-GROUND CAST IRON TABLE • 3" SPINDLE TRAVEL
- TABLE SIZE: 20¼" x 18"
- FLOOR-TO-TABLE HEIGHT: 33½"
- ALL BALL BEARING CONSTRUCTION
- MAX. CUTTER DIAMETER: 5"
- APPROX. SHIPPING WEIGHT: 220 LBS.



**G1706
EXTENSION WING SHOWN
NOT INCLUDED**

**ONLY
\$425⁰⁰**

\$55 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1026 3 H.P. SHAPER

- 3 INTERCHANGEABLE SPINDLES: 1/2", 3/4" AND 1"
- 3" SPINDLE TRAVEL
- HEAVY-DUTY 3 H.P., SINGLE-PHASE, 220V MOTOR WITH REVERSING SWITCH
- TWO SPINDLE SPEEDS: 7,000 AND 10,000 R.P.M.
- SPINDLE OPENINGS: 1½", 2¼", 4", AND 5½"
- PRECISION-GROUND CAST IRON TABLE
- TABLE SIZE WITH STANDARD WING ATTACHED: 30½" x 28½"
- FLOOR-TO-TABLE HEIGHT: 34"
- APPROX. SHIPPING WEIGHT: 353 LBS.



**ONLY
\$825⁰⁰**

\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

2-SERIES MODEL G1019Z 14" BANDSAW

- CUTTING CAPACITY/THROAT: 14½"
- MAXIMUM CUTTING HEIGHT: 6½"
• OVERALL SIZE: 66"H x 26"W x 22"D
- TABLE HEIGHT ABOVE FLOOR: 42½"
- TABLE TILT: 45° RIGHT, 10° LEFT
- WHEELS: FULLY BALANCED CAST ALUMINUM WITH RUBBER TIRES
- MOTOR: 1 H.P., TEFC, 110V / 220V SINGLE PHASE
- AMPS: 12@110V / 6@220V
- BLADE SPEEDS: 2500 & 3350 F.P.M.
- BLADE SIZE: 98" (1/8" TO 3/4" WIDE)
- APPROX. SHIP. WT. 165 LBS.



**ONLY
\$335⁰⁰**

\$55 SHIPPING
ANYWHERE IN LOWER 48 STATES

MEDIA CODE

AD 1298

1-800-523-4777

3 Locations: Bellingham, WA • Springfield, MO • Muncy, PA

CUSTOMER SERVICE:
(570) 546-9663
FAX: (800) 438-5901

WE SELL DIRECT TO THE USER! NO DEALERS AND NO MIDDLEMEN! BUY DIRECT & SAVE!

- FULL 1-YEAR WARRANTY ON ALL MACHINES • MOST ORDERS SHIPPED THE SAME DAY
- HUGE PARTS FACILITY WITH OVER 1 MILLION PARTS IN STOCK AT ALL TIMES
- WE HAVE 2 OVERSEAS QUALITY CONTROL OFFICES STAFFED WITH QUALIFIED ENGINEERS



New!

NEW TABLE SAWS FOR 2002!

MODEL G1022PRO

10" HEAVY-DUTY TABLE SAW WITH SHOP FOX® CLASSIC FENCE

- 2 H.P. MOTOR
- PRECISION GROUND TABLE & WINGS
- WIDE & STABLE STAND
- 5/8" X 1/4" BALL BEARING ARBOR
- 37" TABLE HEIGHT
- 3/8" CUTTING CAPACITY AT 90°, 2 1/2" AT 45°
- SEE THRU BLADE GUARD
- TABLE HAS BEVELED EDGE & T-SLOTS
- 27 1/2" X 40 3/4" TABLE SIZE
- PRECISION SHOP FOX® FENCE
- CAST IRON MITER GAUGE ADJUSTS TO ELIMINATE ANY PLAY IN MITER SLOT
- MACHINED STEEL PULLEYS
- POWER TWIST® DRIVE BELT
- 4" DUST PORT • 25" RIP CAPACITY
- SMOOTHER ACTION HANDWHEELS
- SHIPPING WEIGHT APPROX.: 290 LBS.

INCLUDES
SHOP FOX®
CLASSIC
FENCE!



FULLY
ADJUSTABLE
CAST IRON
MITER GAUGE

**ONLY
\$550⁰⁰**
\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1023SL

10" LEFT-TILTING SUPER HEAVY-DUTY TABLE SAW

- 3 H.P. SINGLE-PHASE, 220V MOTOR
- SOLID CAST IRON TABLE
- TABLE HAS T-SLOTS SO YOUR MITER GAUGE WILL NOT FALL OFF THE TABLE WHEN RETRACTED
- TABLE SIZE (WITH 2 SOLID EXTENSION WINGS ATTACHED) IS 40 3/4" X 27"
- EXTRA-LARGE HANDWHEELS
- CUTTING CAPACITY: 8" LEFT AND 26" RIGHT OF BLADE
- MAXIMUM DEPTH OF CUT @ 90°: 3"
- MAXIMUM DEPTH OF CUT @ 45°: 2 1/4"
- 5/8" DIAMETER ARBOR IS LONG ENOUGH TO ACCEPT DADO BLADES UP TO 1 1/4"
- ONE-PIECE STEEL CABINET-TYPE STAND
- MAGNETIC SAFETY SWITCH IS STANDARD
- ALL SEALED BALL BEARING CONSTRUCTION
- TRIPLE V-BELT DRIVE
- POWDER COATED PAINT
- SHIPPING WEIGHT APPROX. 430 LBS.

New!



**INTRODUCTORY
PRICE
\$895⁰⁰**
\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1022SM

10" HEAVY-DUTY TABLE SAW

- TABLE SIZE W/ EXTENSION WINGS: 27 1/2" X 40 3/4"
- RAIL DIMENSIONS: 44" X 1 1/4" • MAX. RIPPING CAPACITY: 24"
- CUTTING CAPACITY AT 90°: 3 3/4" • CUTTING CAPACITY AT 45°: 2 1/4" • 1 1/2" H.P., SINGLE-PHASE, 110/220V MOTOR (PRE-WIRED TO 110V)
- APPROX. SHIPPING WEIGHT: 220 LBS. • PRECISION GROUND CAST IRON TABLE

TOOL
BUYING GUIDE
Editor's Choice



**ONLY
\$325⁰⁰**
\$55 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1066

24" DRUM SANDER

- 5 H.P., 220V DRUM MOTOR DRIVES 2 ALUMINUM SANDING DRUMS
- 1/4 H.P. CONVEYOR MOTOR GIVES AN 11 FPM RATE OF FEED
- 2 BUILT-IN 4" DUST PORTS FOR EASY HOOK-UP TO COLLECTION SYSTEM
- ALL STEEL AND BALL BEARING CONSTRUCTION
- STATE-OF-THE-ART COMPUTER BALANCED DRUMS
- HANDLES STOCK UP TO 23 1/2" WIDE X 4 1/4" THICK
- APPROX. SHIPPING WEIGHT: 430 LBS.



**ONLY
\$1095⁰⁰**
\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

New!

MODEL G9983

15" WIDE-BELT SANDER (OPEN END)



- OVERALL DIMENSIONS: 61 1/4" H X 32 1/2" D X 35" W
- CONVEYOR SPEED 13 & 16.4 F.P.M.
- BELT FEED MOTOR: 1/4 H.P.
- SANDING BELT MOTOR: 5 H.P.
- REQUIRES SINGLE-PHASE, 220V ELECTRICAL AND 50-70 PSI AIR
- INCLUDES EXTENDED SUPPORT BAR FOR WIDE BOARDS
- APPROX. SHIPPING WEIGHT: 1,000 LBS.

**ONLY
\$2,795⁰⁰**
\$200 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G9922

OSCILLATING SPINDLE SANDER

- 1/2 H.P., SINGLE PHASE, 4.6 AMP, TEFC MOTOR
- GROUND CAST IRON 14 1/2" X 14 1/2" TABLE TILTS TO 45°
- STROKE LENGTH: 1"
- FLOOR-TO-TABLE HEIGHT: 39 1/2"
- BUILT-IN 2" DUST COLLECTION PORT
- 3450 R.P.M. SPINDLE SPEED
- SPINDLE OSCILLATES AT 64 STROKES-PER-MINUTE
- SHIELDED & PERMANENTLY LUBRICATED BALL BEARINGS
- INCLUDES 80 GRIT SLEEVE FOR SPINDLE, MITER GAUGE AND WRENCH SET
- APPROX. SHIPPING WEIGHT: 95 LBS.



**ONLY
\$175⁰⁰**
\$30 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1071

OSCILLATING SPINDLE SANDER

- 1 H.P., SINGLE PHASE, 110/220V, TEFC MOTOR
- PRECISION GROUND CAST IRON 25" X 25" TABLE TILTS TO 45°
- STROKE LENGTH: 1 1/2"
- FLOOR-TO-TABLE HEIGHT: 35 1/2"
- BUILT-IN 4" DUST COLLECTION PORT
- 1725 R.P.M. SPINDLE SPEED
- SPINDLE OSCILLATES AT 72 S.P.M.
- 10 TAPERED AND THREADED SPINDLE SIZES
- PERMANENTLY LUBRICATED BALL BEARINGS
- INCLUDES 100 GRIT SLEEVE FOR EACH SPINDLE, MITER GAUGE AND WRENCH SET
- APPROX. SHIPPING WEIGHT: 300 LBS.

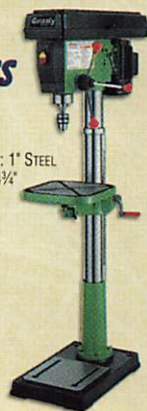


**ONLY
\$525⁰⁰**
\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G7947

12 SPEED 17" FLOOR DRILL PRESS

- 1 H.P., SINGLE PHASE, 110V/220V MOTOR
- 12 SPEEDS: 210-3300 RPM
- OVERALL HEIGHT: 64 1/2" • SWING: 17"
- DRILL CHUCK: 3/4" • DRILLING CAPACITY: 1" STEEL
- SPINDLE TAPER: MT #3 • SPINDLE TRAVEL: 4 1/4"
- TABLE SIZE: 13 3/8" SQ.
- PRECISION GROUND CAST IRON TABLE
- TABLE TILT: 90° IN BOTH DIRECTIONS
- APPROX. SHIPPING WEIGHT: 275 LBS.



**BUILT-IN LIGHT!
(BULB NOT INCLUDED)**
**ONLY
\$375⁰⁰**
\$75 SHIPPING
ANYWHERE IN LOWER 48 STATES

MODEL G1029

2 H.P. DUST COLLECTOR

- MOTOR AMP DRAW: 12 AMPS (220V ONLY)
- 2 H.P., 220V, SINGLE-PHASE MOTOR
- R.P.M.: 3450
- STANDARD BAG FILTRATION: 30 MICRON
- PORTABLE BASE SIZE: 21 1/2" X 33 1/2"
- AIR SUCTION CAPACITY: 1550 C.F.M.
- STATIC PRESSURE: 12.3"
- APPROX. SHIPPING WEIGHT: 130 LBS.

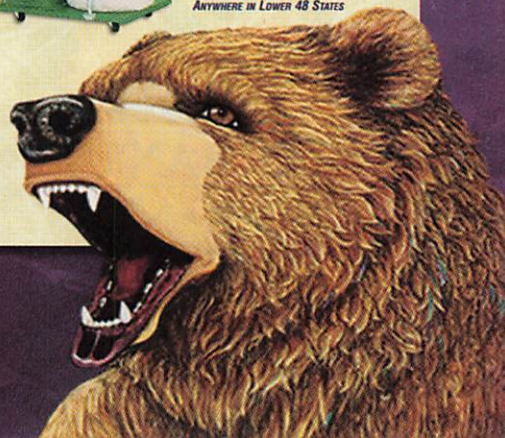


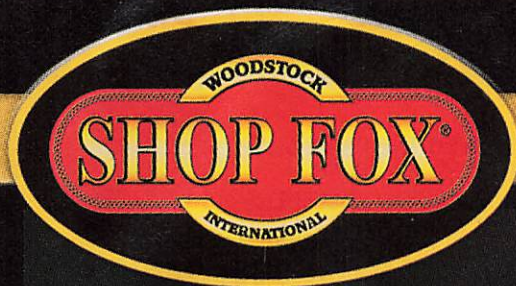
FREE CYCLONE SEPARATOR!
**ONLY
\$249⁹⁵**
\$55 SHIPPING
ANYWHERE IN LOWER 48 STATES

grizzly.com

**OVER 10,000 PRODUCTS
AVAILABLE ONLINE!**

RECEIVE A **FREE GIFT** WITH
EVERY ONLINE ORDER (LIMITED TIME OFFER)





PRESENTING THE LONG AWAITED

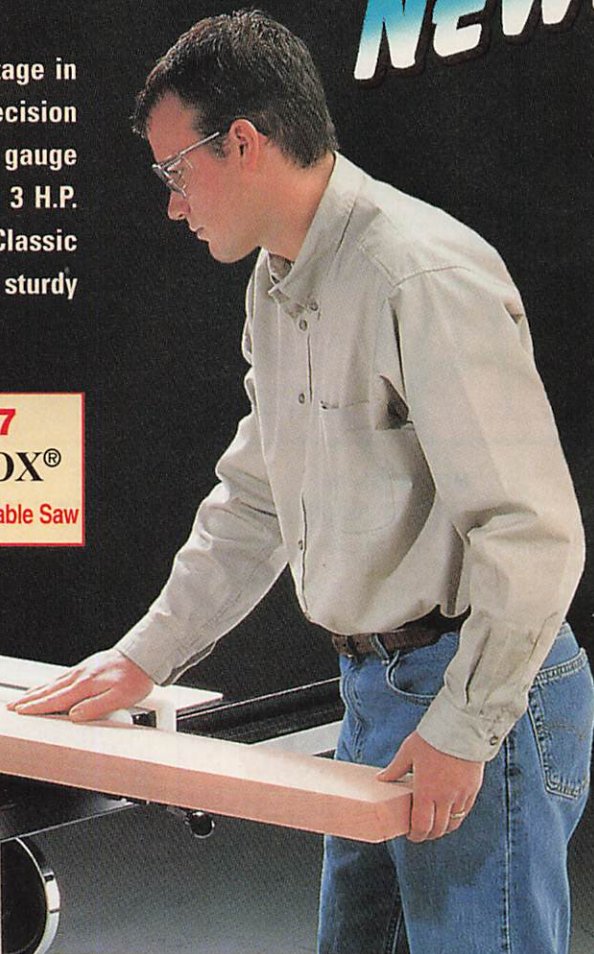
10" LEFT-TILTING TABLE SAW

SEE THIS FINE MACHINE AT AN AUTHORIZED DEALER NEAR YOU!

NEW!

This saw will definitely take center stage in any shop. We've included two large precision ground cast iron wings, a jumbo miter gauge with a patented adjustment feature, and a powerful 3 H.P. motor with a triple belt drive system. The SHOP FOX® Classic Fence with a 26" rip capacity provides a compact and sturdy means for dependable and accurate ripping. (Longer rails are available.)

W1677
SHOP FOX®
3 HP Left-Tilting Table Saw



LEFT-TILTING TABLE SAW

- ◆ MOTOR: 3 H.P., SINGLE-PHASE, 220V
- ◆ DRIVE: TRIPLE BELT
- ◆ TABLE SIZE: 40 $\frac{1}{8}$ " x 27" WITH WINGS (INCLUDED)
- ◆ TABLE: PRECISION GROUND CAST IRON WITH T-SLOTS
- ◆ ARBOR: 5 $\frac{1}{8}$ " (CAN ACCEPT DADO SET AS WELL)
- ◆ TABLE SAW INSERTS: 2 INCLUDED (STANDARD AND DADO)
- ◆ MITER GAUGE: HEAVY-DUTY CAST-IRON
INCLUDES PATENTED ADJUSTABLE MITER BAR
- ◆ SWITCH: HEAVY-DUTY MAGNETIC
- ◆ MAX. BLADE HEIGHT: 3"
- ◆ WEIGHS APPROX. 450 lbs.

2
YEAR
WARRANTY

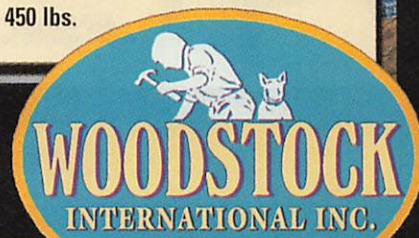
403801958

1-800-840-8420

Technical Support: 360-734-3482

sales@woodstockint.com
www.woodstockinternational.com

WHOLESALE ONLY



Contents

#93, April 2002

Tips for Finishing Cherry 52

TOOL TEST

Drum Sanders 38

page 52

Craftsman-Style Outdoor Chair 60

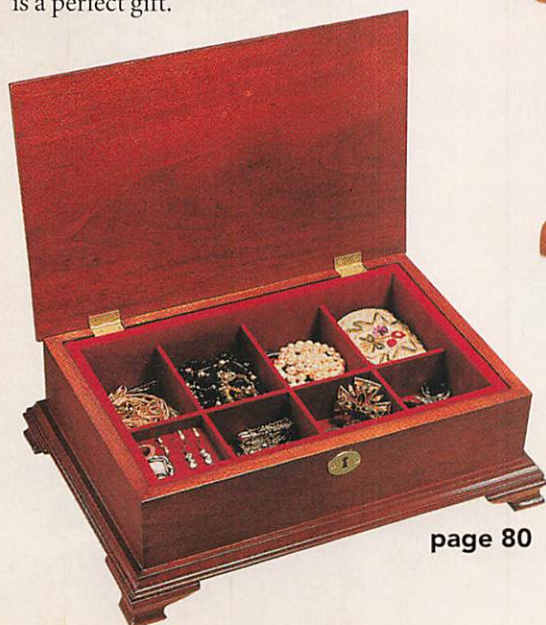
Make one, and with our jigs, make a dozen more!

Heavy-Duty Folding Shop Table 74

It folds up small, but this beefed-up shop table is rugged and ready.

Classic Jewelry Box 80

This rich-looking and practical box is a perfect gift.



page 80



page 60

AMERICAN WOODWORKER

American Woodworker APRIL 2002

3



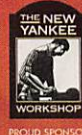
The easy way to protect beautiful wood from life's bumps and spills.



Now, beautifying and protecting wood is as easy as brushing on Minwax® Polycrylic® Protective Finish. Polycrylic dries fast and cleans up with soap and water, allowing you to complete projects in less time. And its remarkable clarity and smooth, durable finish let wood's natural beauty shine through. Polycrylic, the easy way to keep wood beautiful.



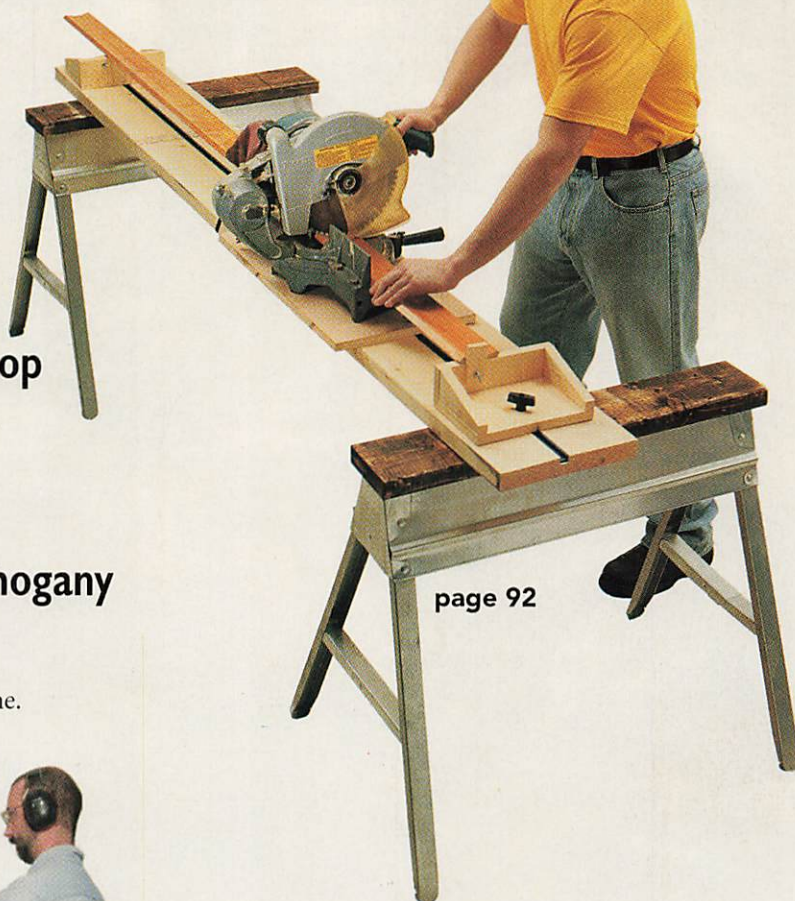
Makes And Keeps Wood Beautiful®
minwax.com



Contents

DEPARTMENTS

- 8** Editor's Letter
- 10** Question & Answer
- 18** Workshop Tips
- 28** The Well-Equipped Shop
- 92** Small Shop Tips
- 104** **Great Wood!**
Quilted Honduras Mahogany
- 106** **What's Coming Up**
Can't wait? Here's what's coming in June.
- 108** **Sources**
Find all the great stuff we feature
in this issue, all in one place
- 116** **Oops!**



page 92



page 28



page 10

READER'S SERVICE

We welcome your comments, suggestions, or complaints. Write to us at: **American Woodworker**, 2915 Commers Dr., Suite 700, Eagan, MN 55121 Phone: (651) 454-9200 Fax: (651) 994-2250 e-mail: amwood@concentric.net

Back Issues: Some are available for \$5 each.

Copies of Past Articles:

Photocopies are available for \$3 each. For either, write or call: American Woodworker Reprint Center, P.O. Box 83695, Stillwater, MN 55083-0695 (715) 246-4344, 8 AM to 5 PM CST, Mon. through Fri. Visa, MasterCard and Discover accepted.

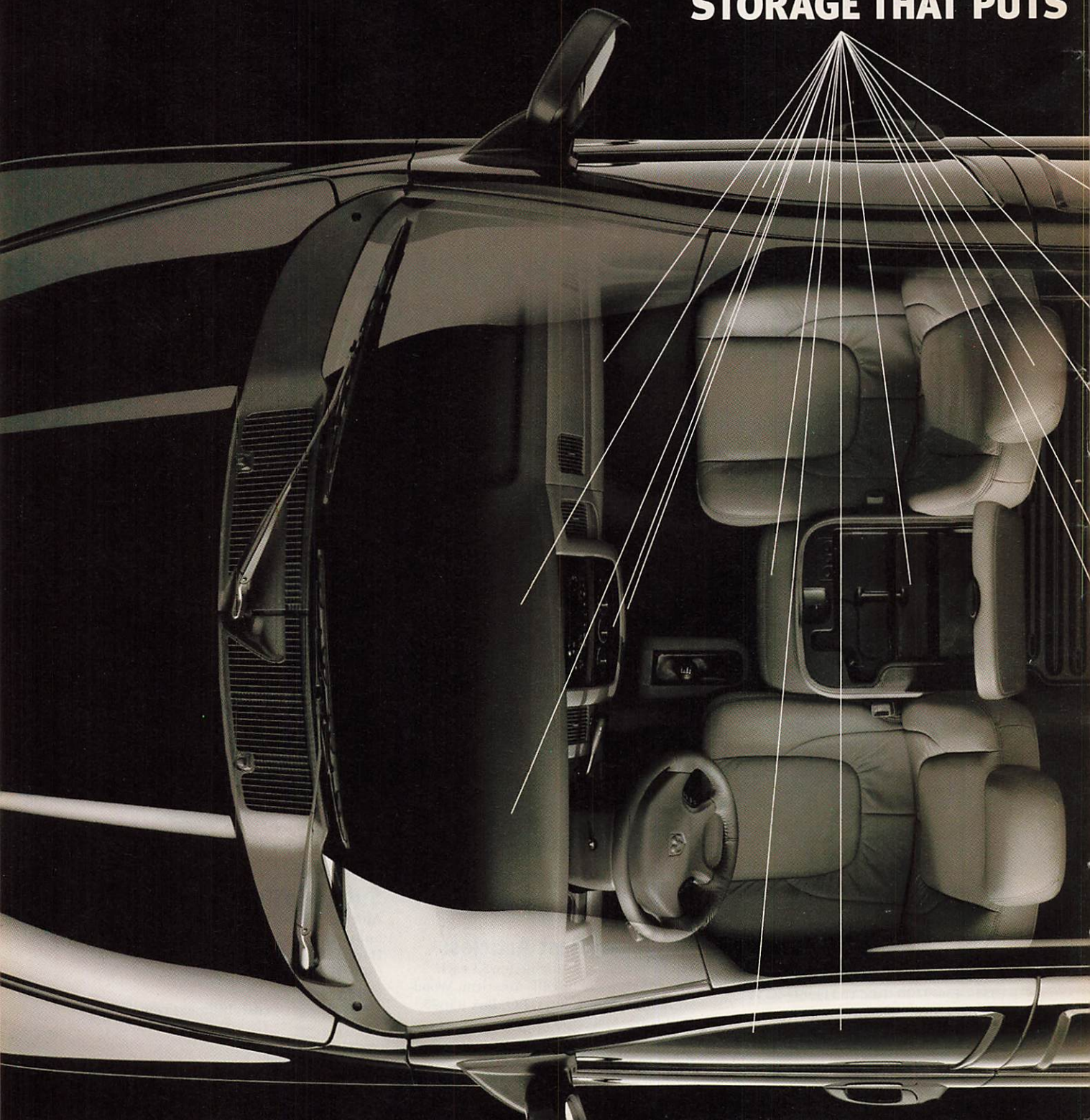
Subscription Inquiries:

American Woodworker
Subscriber Service Dept., P.O. Box 2134,
Harlan, IA 51593-0323
(800) 666-3111
e-mail: AWWcustserv@cdsfulfillment.com

THE NEW MAYOR OF TRUCKVILLE Hold it right there • The all-new Dodge Ram has a new center cushion storage compartment in the front seat • An improved fold-down business console handles your laptop or cell phone • Stick stuff in the new seatback pocket, door storage pockets, new instrument panel bin, or in the overhead console • In back, available Stow and Go™ rear seats fold up to allow for a flat-load floor • Ram's four full-size doors open to the roomiest interior of any pickup in its class*—but amazingly, you still get a full-size bed • Whatever you've got, you know where you can put it. For more info, call **800-4ADODGE** or visit **4adodge.com**

*Automotive News, full-size pickups, half-ton light-duty models. Some features optional. Always use seat belts. Remember, a backseat is the safest place for children 12 and under.

STORAGE THAT PUTS



GRAB LIFE BY THE HORNS

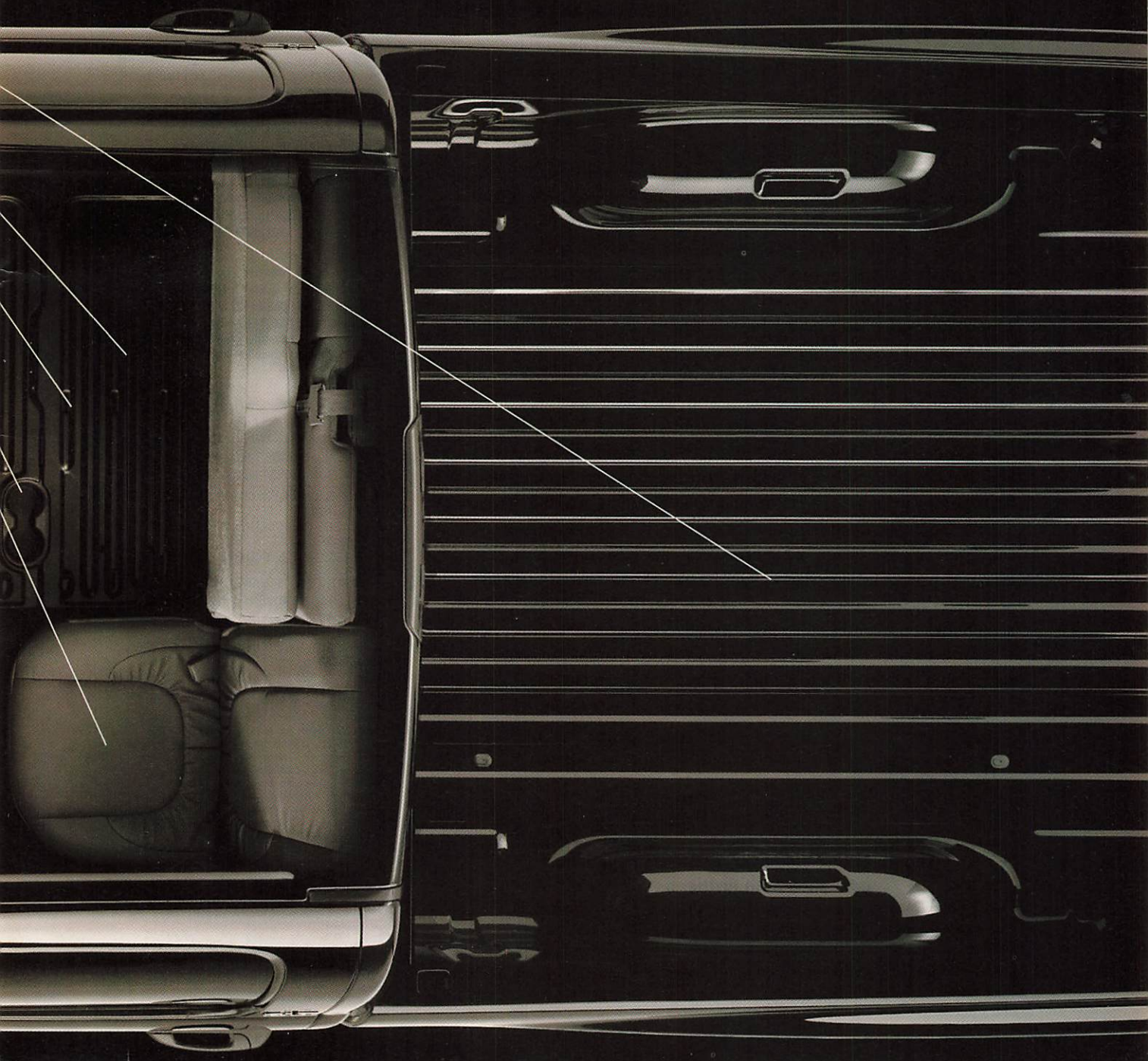


RAM

DODGE

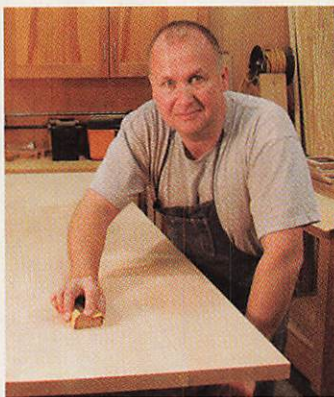


THE COMPETITION AWAY



Editor's Letter

A "Do-Over" Tabletop



STAFF

I've been working in the shop for the last few days, making a new top for our dining room table.

That table is one of the first large pieces of furniture I made, over 20 years ago. It's a Shaker refectory-type table in cherry, and it was made to fit our old dining room, which was very narrow. The new top is going to be longer, wider, and much easier to get the whole family around.

It's also a chance for me to experience one of the rarest pleasures for a woodworker: the "do-over." This time around I get to correct all the little things that have bugged me about that table for years. The boards on the top, for instance, were never well matched for color. No matter how dark the cherry got with age, one board was always much darker than the others. If you've worked with cherry much, this is a familiar problem to you. I had a heck of a time jointing the edges of the long boards in that first tabletop, too, with just a little 6-in. jointer and my (brand new) jointer plane. And I put an oil finish on it, which didn't hold up to daily use very well, resulting in some glue lines opening up.

So the new top will correct all those shortcomings. But as I look at the old one, I'm sad to see it go. There's a black stain in the shape of a cookie cutter, the result of an unfortunate combination of water, steel and cherry during one of our annual holiday cookie-making orgies. There's the large and mysterious dent near where my oldest son always sat. There are the dozens of stains (pear sauce? strained beets?) at each end, where the high chair was always placed. There's the burn mark acquired during a rowdy Valentine's Day party. This table is like a scrapbook of our family's life, and I kinda hate to lose it. Is that the price I have to pay for a do-over? Hmmm... Maybe I could cut that old table down and turn it into a coffee table...

Ken
Ken Collier

The American Woodworker Shows have been cancelled until further notice.

In light of the economic uncertainty following the tragedy on September 11, we have decided to cancel the American Woodworker Shows at this time. For details, please go to our Web site, www.americanwoodworker.com. We apologize for any inconvenience this may have caused.

AMERICAN WOODWORKER

Subscription Questions? See page 5

EDITOR Ken Collier

SENIOR EDITOR Tom Caspar

ASSOCIATE EDITORS Randy Johnson, Tim Johnson, Dave Munkittrick

CONTRIBUTING EDITOR George Vondriska

ART DIRECTORS Patrick Hunter, Vern Johnson, Barbara Pederson

COPY EDITOR Mary Flanagan

FACT CHECKING SPECIALIST Nina Childs Johnson

PRODUCTION MANAGER Judy Rodriguez

SHOP ASSISTANTS Nick Danner, Al McGregor

READER SERVICE SPECIALIST Roxie Filipkowski

ADMINISTRATIVE ASSISTANTS Lori Callister, Shelly Jacobsen

GENERAL MANAGER Bonnie Bachar

PUBLISHER Jim Schiekofer

ASSOCIATE PUBLISHER Rick Straface

MARKETING DIRECTOR Bill Cort

BUSINESS MANAGER Mike Frantino

PROMOTION MANAGER Andrea Vecchio

PROMOTION COORDINATOR Joanne Noé

ADVERTISING COORDINATOR Susan Bordonaro

ADVERTISING SALES

260 Madison Ave., New York, NY 10016; 212-850-7226

CHICAGO AND WEST COAST Jim Ford (312) 540-4804

NEW YORK David Clutter (212) 850-7124,

Tuck Sifers (212) 850-7197

CLASSIFIED ADVERTISING The McNeill Group, Inc.

Classified Manager, Kristofer Ohrenick,

(215) 321-9662, ext. 12

PUBLISHED BY HOME SERVICE PUBLICATIONS, INC.,

a subsidiary of the Reader's Digest Association, Inc.

EDITOR IN CHIEF Ken Collier

OFFICE ADMINISTRATIVE MANAGER Alice Garrett

TECHNICAL MANAGER Shannon Hooge

PRODUCTION ARTIST Lisa Pahl Knecht

CHAIRMAN, CHIEF EXECUTIVE OFFICER

Thomas O. Ryder

WORLDWIDE CIRCULATION DIRECTOR

John Klingel

VICE PRESIDENT, EXECUTIVE PUBLISHER

Dom Rossi

VICE PRESIDENT, FINANCE Will Price

DIRECTOR, U.S. ADVERTISING Britta Ware

VICE PRESIDENT, CIRCULATION MARKETING

Dawn Zier

VICE PRESIDENT, CIRCULATION/OPERATIONS

Renee Jordan

QUALITY CONTROL MANAGER Ernie Salto

DIRECTOR OF OPERATIONS Thomas Tzoucalis

Issue #93, American Woodworker® (ISSN 1074-9152; USPS 0738-710) is published seven times a year in February, April, June, August, October, November, and December by Home Service Publications, Inc., 260 Madison Avenue, 5th Floor, New York, NY 10016. Periodicals postage paid at New York, NY and additional mailing offices. Postmaster: Send change of address notice to American Woodworker®, P.O. Box 2134, Harlan, IA 51593-0323. Subscription rates: U.S. one-year, \$23.98. Single-copy, \$3.95. Canada one-year, \$29.98 (U.S. Funds). GST # R122988611. Foreign surface one-year, \$29.98 (U.S. Funds). U.S. newsstand distribution by Hearst Distribution Group, New York, NY 10019. In Canada: Postage paid at Gateway, Mississauga, Ontario; CPM# 1447866. Send returns and address changes to American Woodworker®, P.O. Box 2134, Harlan, IA, USA 51593-0323. Printed in USA. © 2002 Home Service Publications, Inc. All rights reserved.

Reader's Digest may share information about you with reputable companies in order for them to offer you products and services of interest to you. If you would rather we not share information, please write to us at: Reader's Digest Association, American Woodworker, Customer Service Department, PO Box 5073, Harlan, IA 51593. Please include a copy of your address label.

Standing out from the competition...

at every angle.



Contractor-Style Tablesaw
with cast-iron wings, \$649**

28-tooth carbide-
tipped blade **FREE**

SAVE \$99**

**after \$50 rebate

**\$50
REBATE**

\$50 rebate on all
JWTS-10CW cast-iron wing models.
\$25 rebate on all
JWTS-10 steel wing models.

JET proudly presents the Gold Series —
our best-selling tools matched with
a **FREE** accessory package!

Tools pictured:

18" Bandsaw, \$1,099*
3 blades **FREE**
SAVE \$49

16½" Drill Press, \$399*
Mortising attachment
and 3 bits **FREE**
SAVE \$176

15" Closed Stand Planer, \$1199*
Extra knife set **FREE**
SAVE \$59

1100 CFM Dust Collector, \$299*
One tool connection kit **FREE**
SAVE \$49

1236 Wood Lathe with stand, \$579*
8-piece chisel set **FREE**
SAVE \$39

PERFORMAX
16-32 Plus Drum Sander, \$799*
Caster set and 2 extra
boxes of sandpaper **FREE**
SAVE \$146

Tools not shown:

XACTA SAW™
left- and right-tilt, 3 HP, \$1499*
Table and legs set **FREE**
SAVE \$199

Mini Lathe, \$349*
18-piece pen turning kit **FREE**
SAVE \$129

1000 CFM Air Filtration System, \$239*
Extra electrostatic outer filter **FREE**
SAVE \$39

6" Closed Stand Jointer, \$499*
2 extra knife sets **FREE**
SAVE \$148

1½ HP Closed Stand Shaper, \$699*
12-piece carbide router bit set **FREE**
SAVE \$149

14" Closed Stand Bandsaw, \$599*
Rip fence and mitre gauge **FREE**
SAVE \$130

HURRY!
offer ends
March 31st

POWERMATIC

JET
WMH TOOL GROUP

PERFORMAX

Question & Answer

Q. My cordless drill battery doesn't hold a charge as long as it used to. Is there some way to put new cells in it, or do I have to toss it and buy a new one?

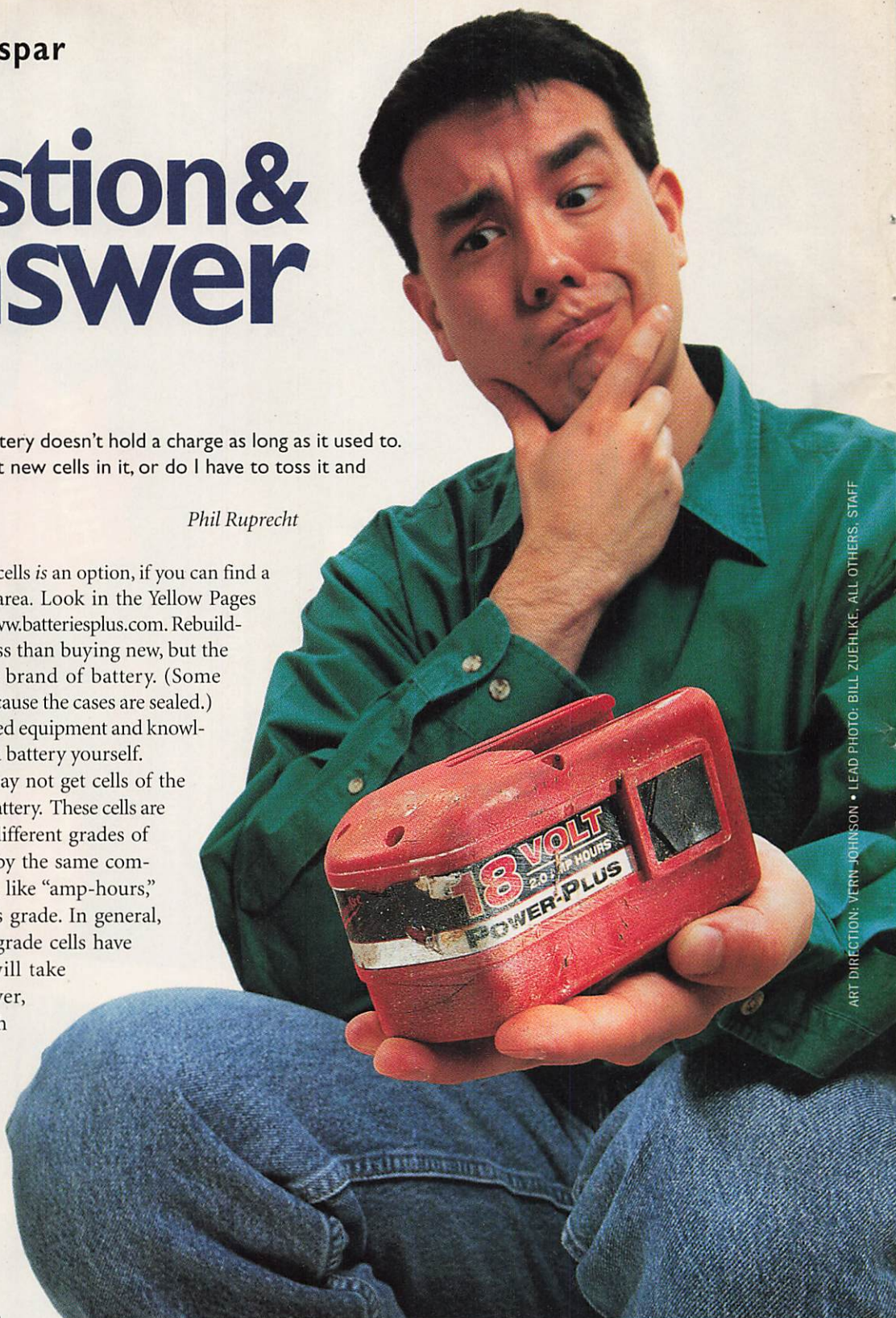
Phil Ruprecht

A. Rebuilding with new cells is an option, if you can find a battery rebuilder in your area. Look in the Yellow Pages under Batteries or go to www.batteriesplus.com. Rebuilding costs about a third less than buying new, but the price will vary with the brand of battery. (Some brands can't be rebuilt because the cases are sealed.) Rebuilding takes specialized equipment and knowledge—you can't rebuild a battery yourself.

Be warned that you may not get cells of the same quality in a rebuilt battery. These cells are manufactured in many different grades of quality and price, often by the same company. No single number, like "amp-hours," can fully quantify a cell's grade. In general, more expensive, higher-grade cells have longer run times and will take more recharges. However, they're not marked in such a way that a rebuilder can guarantee that the new cells are exactly the same grade as the originals.

Another consideration is that your rebuilt battery may not be as durable as the original. To withstand all of the punishment a cordless drill takes, the batteries are made to exacting standards. Once the battery is rebuilt, it may not be as tough as it once was.

Rebuilding makes sense for low- to medium-priced drills (under \$100) that aren't banged about too much. For premium drills, buy a new battery.

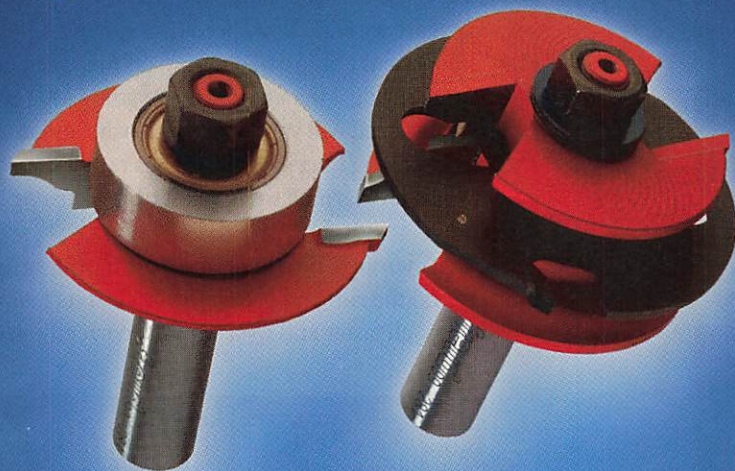


ART DIRECTION: VERN JOHNSON • LEAD PHOTO: BILL ZUEHLKE, ALL OTHERS: STAFF

If you have a question you'd like answered, send it to us at:

Question & Answer, American Woodworker,
2915 Commers Drive, Suite 700, Eagan, MN
55121. Sorry, but the volume of mail prevents us
from answering each question individually.

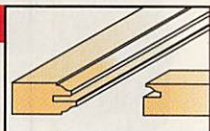
What's missing from the perfect cabinet?



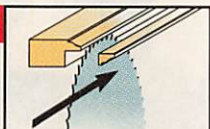
The perfect glass door...and the bits to make it.

Steps to Perfection

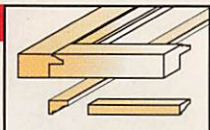
1 ROUT PROFILES ON STILES AND RAILS USING FREUD RECOVERABLE BEAD GLASS DOOR BIT SET.



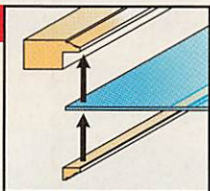
2 REMOVE BEADS WITH 1/8" KERF SAW BLADE (10" FREUD LM72 SERIES RECOMMENDED).



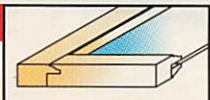
3 ASSEMBLE STILES AND RAILS. MITER CUT BEADS TO SIZE.



4 INSTALL 1/8" GLASS AND SECURE WITH BEADS.



5 NOW YOU HAVE CABINET DOORS THAT LOOK AS GOOD OPEN AS THEY DO CLOSED.



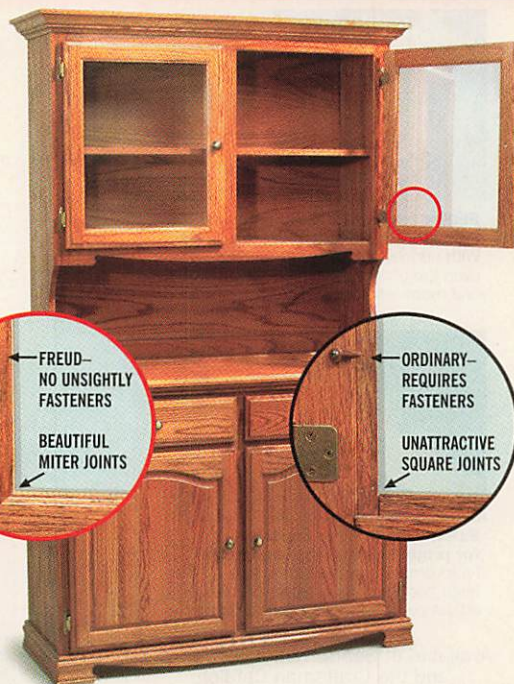
Create glass cabinet doors that look as good open as they do closed.

Freud introduces the revolutionary Recoverable Bead Glass Door Bit Set. This two-piece bit set allows you to perform two tasks at once: create stiles and rails for glass cabinet doors while also forming the beads that hold the glass in place.

This unique process ensures that your glass beads will perfectly match the wood grain of your rails and stiles. You'll never again have to purchase unsightly fasteners, saving you time and money. Plus, the exclusive profile shape eliminates splintering and creates smooth grooves, so the pieces fit together easily with less sanding.

These 1/2" shank diameter bits are easy to use, with no complicated set-ups. Choose from three popular designs: 99-281 produces an ogee profile, 99-280 cuts a quarter round profile, and 99-283 forms a beaded profile.

Whether you're a hobbyist or a production shop, Freud makes it easy for you to create the perfect cabinet.



freud[®]

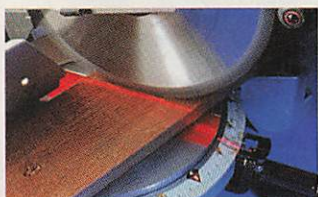
The Psychology of Woodworking

ISO 9002
CERTIFICATE REGISTRATION # 12 100 9100

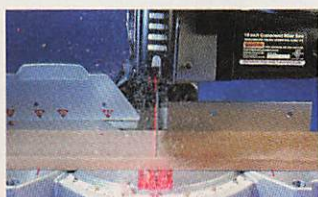
FOR MORE INFORMATION CALL 1-800-472-7307.
IN CANADA, CALL 1-800-263-7016.

CRAFTSMAN®

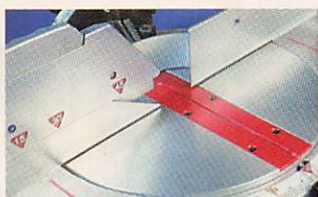
MAKING A PERFECT CUT IS AS EASY AS LINING YOUR MARK UP TO THE LASER TRAC!



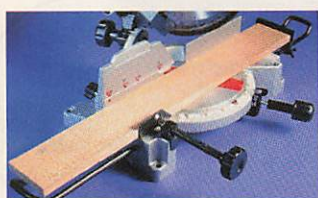
Craftsman Exclusive Laser Trac
The guesswork is over. So is wasteful, inaccurate cutting. Now you'll know exactly where the blade will intersect with your workpiece. Perfect for all types of straight and bevel cutting.



5,000 rpm no-load speed for fast and smooth cutting
15-amp universal motor with externally accessible brushes has power needed for all types of cuts.



Sliding fence with built-in bevel indicators for fast, accurate setups
With our new easy-to-read controls, even the tricky cuts can be set up and made with confidence.



Extensions provide capacity for projects both large and small
From ornate crown molding to a huge backyard deck, make precise adjustments with ease & confidence.

Available at Sears, Sears Hardware,
and the Craftsman Catalog
at 800-437-9686

SEARS
Where else?™

Question & Answer

How Fast Should a Forstner Bit Spin?

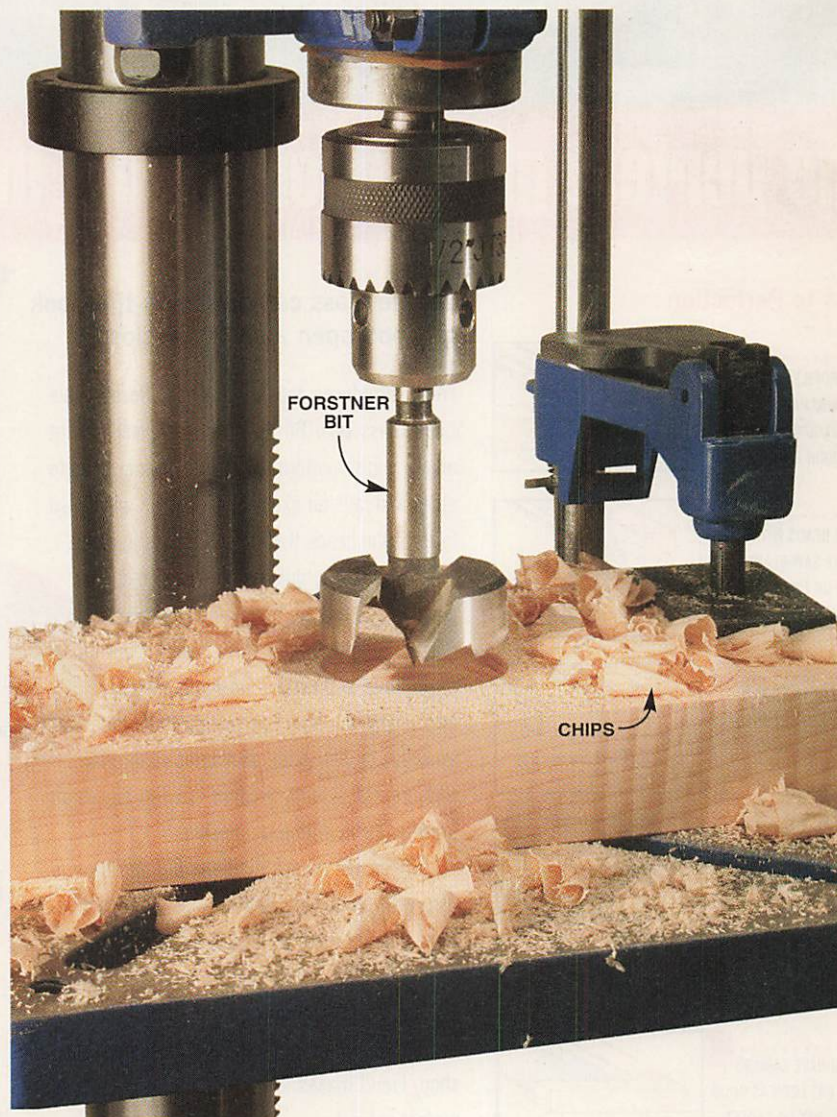
Q. I just bought a set of Forstner bits for my drill press. The first time I used one I made more smoke than sawdust! How do I figure out the right spindle speed for these bits?

Raymond Wickerman

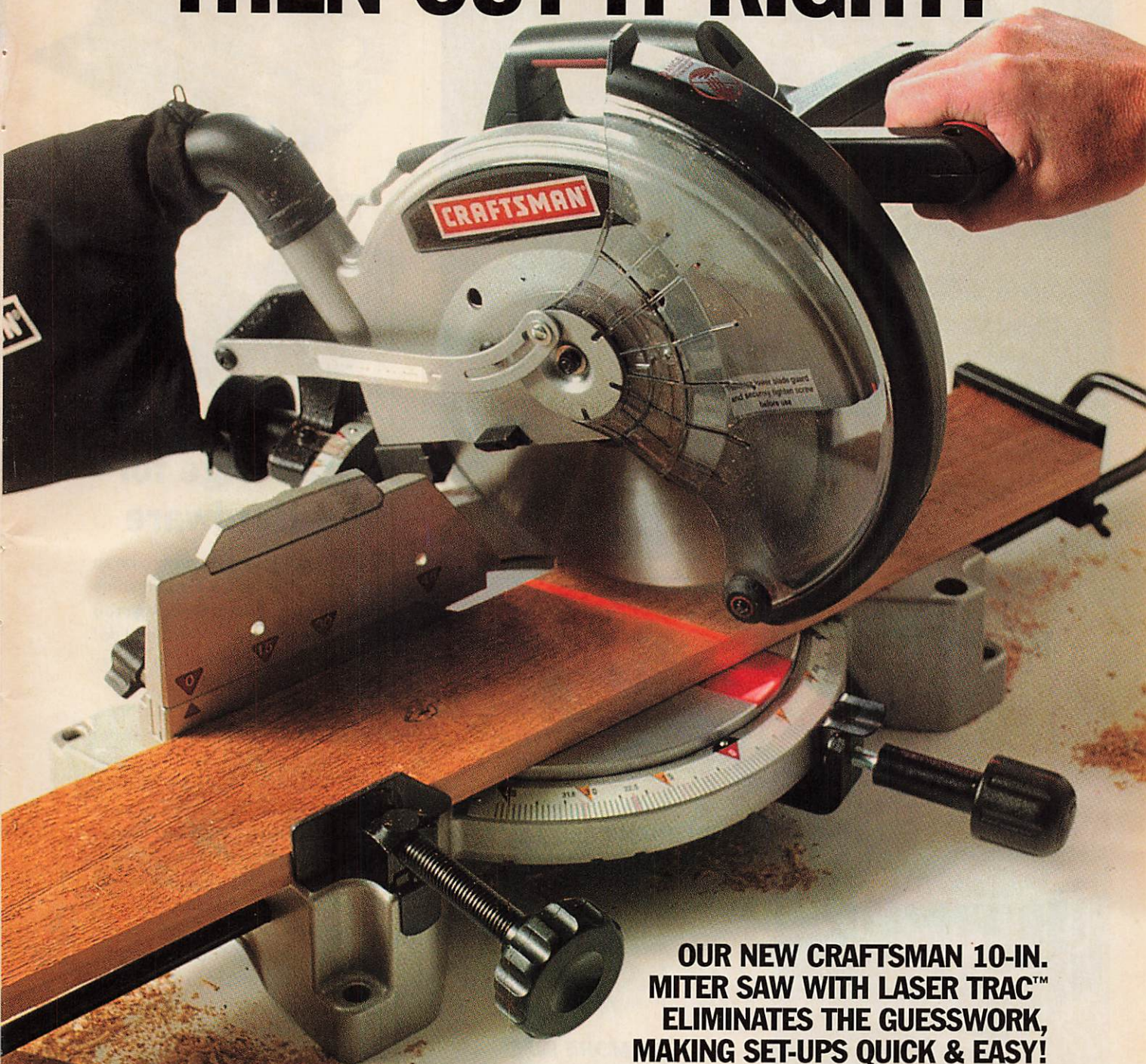
A. To find the fastest *maximum* speed for any size Forstner bit, do a little experimenting. Start at a fairly slow speed (800 rpm for 1- to 1-3/8-in. bits, 600 rpm for larger ones). If you make chips, fine. Bump up the speed one setting and try again. If you make more sawdust than chips, you're going too fast.

The right speed will vary with the density and moisture content of the wood. You should be making long strings of chips rather than smoke or sawdust. Both smoke and sawdust are warning signs that the bit is turning too fast or you're pushing down too hard.

So what's wrong with a little smoke? If the bit turns too fast, it'll overheat and turn blue around the rim, indicating that it's lost its temper (!). That's not good. The bit will dull much faster and won't make a correctly sized hole.



SEE THE LIGHT, THEN CUT IT RIGHT!



**OUR NEW CRAFTSMAN 10-IN.
MITER SAW WITH LASER TRAC™
ELIMINATES THE GUESSWORK,
MAKING SET-UPS QUICK & EASY!**

Let the light of a laser help guide your cuts with great precision. 15 amps of heavy-duty power provides the muscle to handle most any project. State of the art features include a sliding fence designed with a built-in bevel indicator. A dual-view bevel scale that provides a clear view from both sides of the cut. Soft Touch Power D-handle comfortably supports your hand while you cut. Plus, we've combined value with Craftsman innovation by including a stop block, clamp, dust bag, carbide-tipped blade and extensions. See the light for yourself by visiting your nearest Sears or Sears Hardware store. #24315 **199.99**

CRAFTSMAN

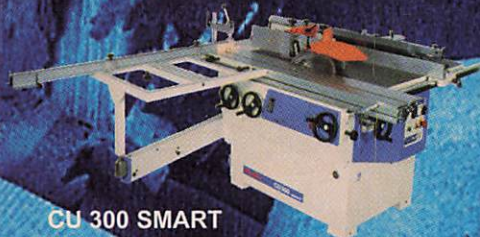
MAKES ANYTHING POSSIBLE™

Price may vary in Alaska, Hawaii & Puerto Rico. Shipping, handling & sales tax charges on phone orders will be quoted over phone. © 2002 Sears, Roebuck and Co.

MiniMax : Buy SMART the First Time

"Your Future Is Our Business"

Introducing the all-new Smart series 5-in-1 combination machine. A product of 50 years experience in manufacturing, the CU 300 Smart gives you maximum capability with minimal investment. Let Mini Max provide a solution to your woodworking needs. Here's how:



CU 300 SMART

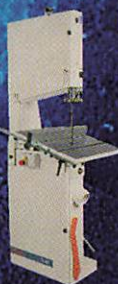
Combination Machine

**BUY NOW AND RECEIVE THE
\$45 18" BANDSAW**

FREE!

Toll Free:
866-WRK-WOOD
866-975-9663
webmaster@minimax-usa.com
www.minimax-usa.com

**\$45
Bandsaw**

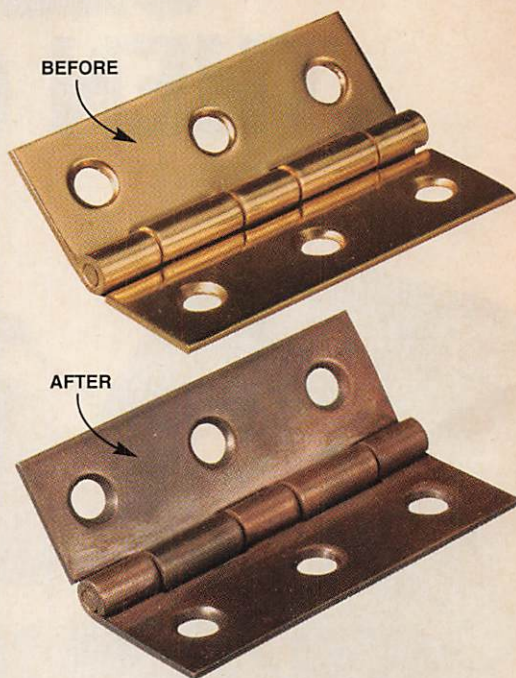


- 12" x 9" Thickness Planer
- 12" Jointer
- 4-speed shaper
- Mortising Unit
- 12" Blade Capacity
- Scoring Unit
- 5' Sliding Table (8' Optional)
- 3 separate motors, each 4.8HP

- 10" Resaw Height
- Euro guides
- Cast Iron Wheels
- Cast Iron Table
- 45° Tilt, with Double Trunion
- 2.5HP motor

CALL US DIRECT to experience the savings and service an established, world-class manufacturer can provide!

Question & Answer



Instant Age for New Hardware

Q. I'm missing some hardware on an old piece of furniture. I found some replacements, but they're way too shiny and new-looking. What do I do?

Pat Kinney

A. If your new hardware is solid brass, solid steel, or plated with zinc, you're in luck. There's an easily applied chemical called Brass Ager (\$2.75 for 8 oz., see Sources, page 108) that will darken your metal to look like old, patinated hardware. Traditional chemicals such as ammonia and gun-bluing don't work on all three of these metals.

Brass Ager works in minutes and can be used over and over again. Submerge your hardware in Brass Ager and remove it when it reaches the color you want. Polish the hardware with a white cotton cloth to add luster.

Brass Ager won't work on brass-plated hardware. How do you tell what's what? A magnet will stick to brass-plated hardware, but not to solid brass. If the hardware is coated with lacquer, remove the lacquer with paint remover before using Brass Ager. **AW**

ENERGY-**SAVING**

CONVERTIBLE SUNPORCH®

**INSULATED WINTER
SUNROOM CONVERTS TO A
SUMMER SCREEN ROOM!**

Full Top-To-Bottom Wall Area Screens!

- ☐ QWIK® window/screen change system
- ☐ Do-it-yourself kit, no contractors needed
- ☐ Meets building codes for snow & wind loads
- ☐ Unique Climate Control System
- ☐ No extras, comes complete
- ☐ Buy factory direct & save
- ☐ America's #1 value since 1974.

FOR MORE INFO & BONUS OFFER:

**MAIL
COUPON
WITH \$2.**

WEB SITE
www.sunporch.com
(Bonus Code: AMW)

**MOUNTS
READILY ON
DECKS, PATIOS,
OR LANDSCAPE
TIES.**

SunPorch® Structures, Inc.
P.O. Box 368, Dept. AMW
Westport, CT 06881-0368

☐ **YES** I enclose \$2. Please send complete details, Color Catalog & Prices.

Name _____

Address _____

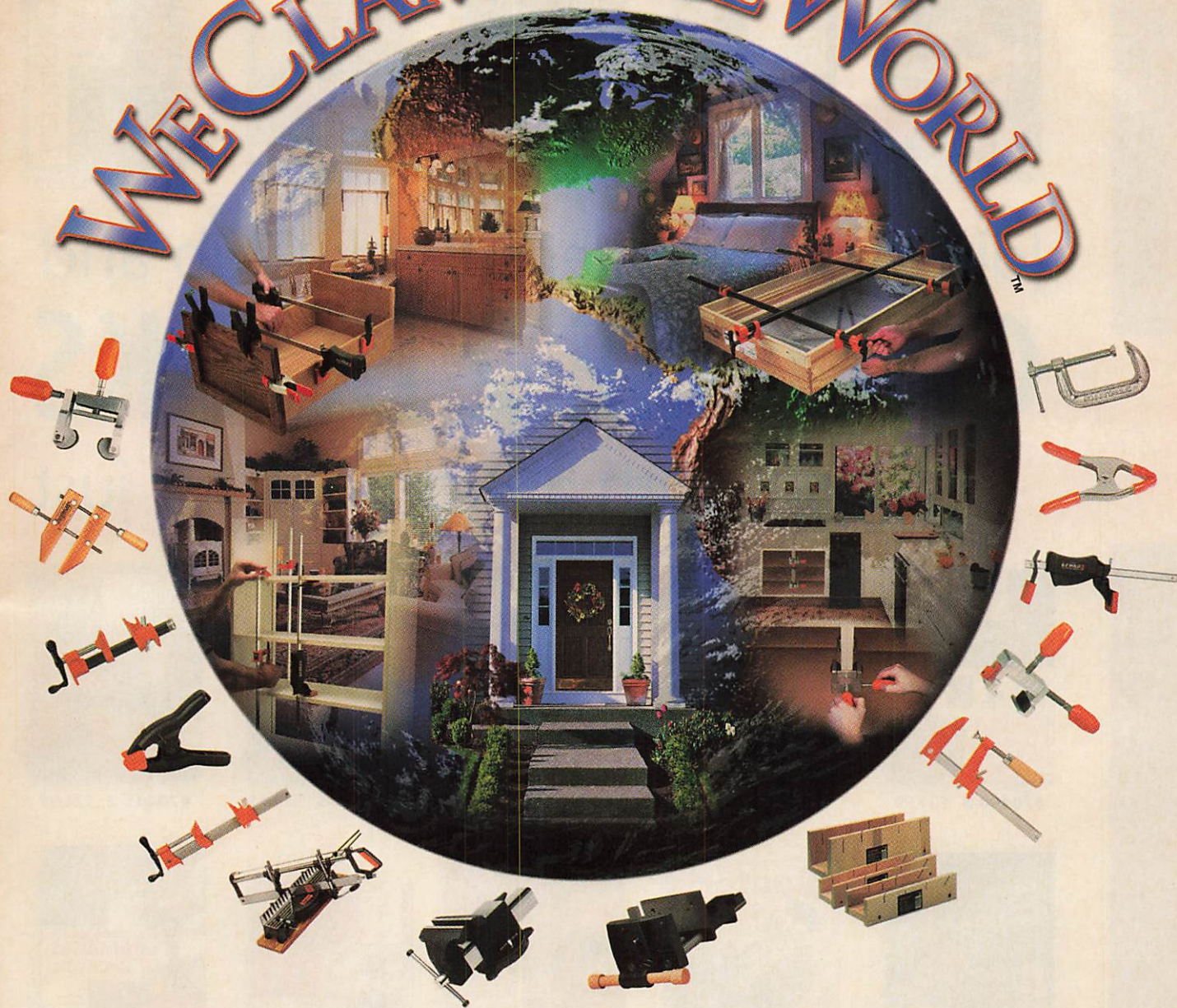
City _____

State _____ Zip _____



SunPorch® Structures Inc.
P.O. Box 368, Dept. AMW
Westport, CT 06881-0368

WE CLAMP THE WORLD™



"Jorgensen"

"Pony"

'Adjustable'™

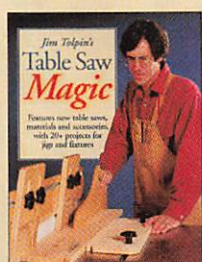
YOU'RE PROBABLY A LITTLE LESS AMBITIOUS.

Whether you are a do-it-yourselfer, a professional woodworker or somewhere in between, you have a world full of projects in the home or in the shop that will be easier and more enjoyable to complete when you use quality clamps, bench vises and miter boxes/saws from the Adjustable Clamp Company. Look for them under the Jorgensen, Adjustable and Pony brand names wherever fine tools are sold.

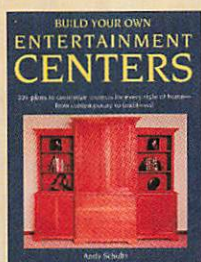




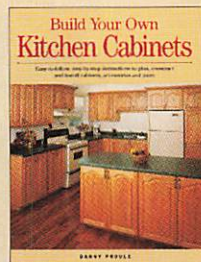
#70491-6 \$24.99



#70429-6 \$24.99



#70354-6 \$22.99

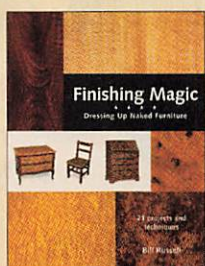


#70376-9 \$22.99

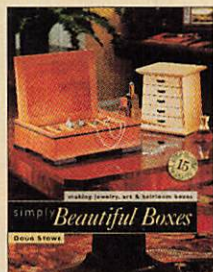


#70466-8 \$22.99

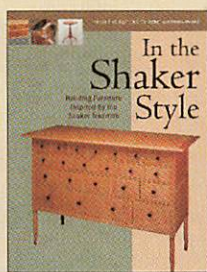
Join Woodworker's Book Club and CHOOSE 2 BOOKS with a 3rd Book for just



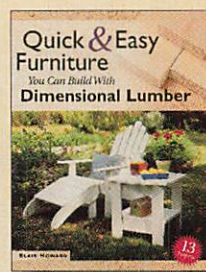
#70490-8 \$24.99



#70431-2 \$21.99



#80631-5 \$24.95



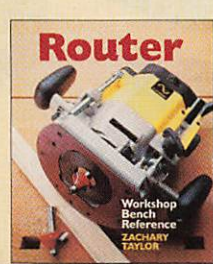
#70459-3 \$22.95



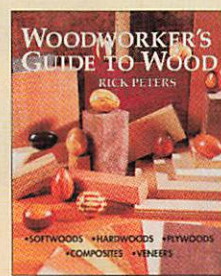
#70445-2 \$24.99



#70384-3 \$22.99



#80564-8 \$17.95



#80604-2 \$24.95



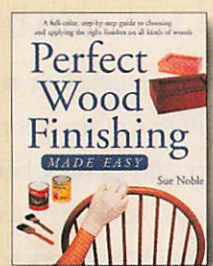
#70440-3 \$22.99



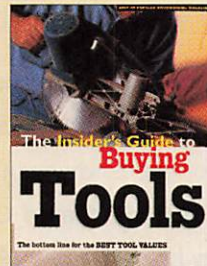
#70520-2 \$24.99



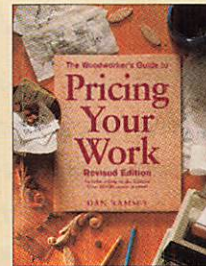
#70355-3 \$27.99 hc



#70382-7 \$25.99



#70473-4 \$22.99

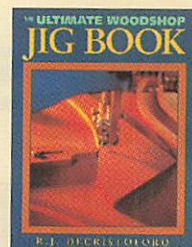
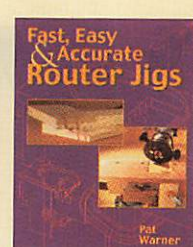


#70516-0 \$21.99



#70492-4 \$24.99

All books are softcover unless marked hc. Prices shown are publishers' list prices.

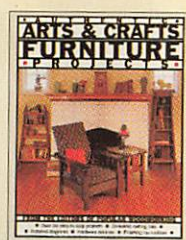
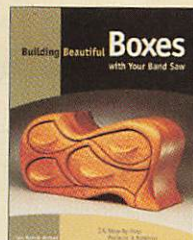
#70521-0 ~~\$24.99~~#70474-2 ~~\$25.99~~#70500-4 ~~\$24.99~~#70422-1 ~~\$24.99~~#70421-3 ~~\$22.99~~#70427-0 ~~\$24.99~~

FREE

\$9.99

 plus shipping & handlingPlus get
a **FREE** Gift**Measure
Once,
Cut
Once**Simple Steps
to Accuracy in
Woodworking

By Steve Shanesy

#70478-3 ~~\$16.99~~#70499-9 ~~\$24.99~~#70472-6 ~~\$22.99~~#70458-5 ~~\$22.99~~Uncover the secrets to getting exact lengths, perfect angles, and snug joints every time with this guide from *Popular Woodworking* Editor Steve Shanesy.A \$3.95 value,
yours **FREE**
with membership!

How the Club Works

- FREE CLUB NEWS** About every 4 weeks (14 times per year), you'll receive the *NEWS*, featuring a Main Selection and 100 or more of the newest and best woodworking instruction books.
- EASY ORDERING** Simply return your Selection Card by the specified date, indicating whether or not you want the Main Selection and/or any additional books. If you enclose payment for your selection(s), shipping and handling is **FREE!** (If you don't have time to return your Selection Card, we'll send the Main Selection automatically.)
- RETURN PRIVILEGE** If the *NEWS* is delayed and you ever receive the Main Selection without having 10 days to notify us, you may return the selection at Club expense.
- NO-OBLIGATION MEMBERSHIP** You have no obligation to buy any more books; you're just agreeing to try the Club for 9 months. After that, you may cancel at any time. Each time you buy a book, your membership will be renewed for 6 months from the purchase date.

**WOODWORKER'S
BOOK CLUB**PO Box 9274
Central Islip, NY
11722-9274**1-800-221-6364**Call TOLL FREE Monday-Saturday,
8 a.m. to 9 p.m. EST

MEMBERSHIP SAVINGS CERTIFICATE

YES! I want to join Woodworker's Book Club! Please send me:My 1st Book
FREEand my 2nd Book
FREEwith my 3rd Book
for \$9.99Plus my
FREE Gift# - # - # - # **803601**VISA/MasterCard/AmEx Orders Call **TOLL FREE 1-800-221-6364**
Monday-Saturday, 8 a.m. to 9 p.m., Eastern Standard Time

I'm enclosing \$9.99 plus \$7.93 shipping & handling, for a total of just \$17.92.

☐ Check enclosed (or) Charge my ☐ VISA ☐ MasterCard ☐ AmEx

Acct. # _____ Exp. _____

Signature _____
(REQUIRED OF EVERYONE)I have read *How the Club Works* and understand I have **NO OBLIGATION** to buy any more books.Name _____
(PLEASE PRINT)

Address _____

City _____ State/Prov. _____ ZIP/PC _____

Offer good for new members in U.S. and Canada only. In Ohio, Colorado and New York, please add applicable state tax. In Canada provide a street address and remit in U.S. funds; enclose \$10.33 s&h and \$1.42 GST for a total of \$21.74. One membership per household. Allow up to 4 weeks for delivery. The Club reserves the right to approve all applications and may cancel membership at any time.

Mail today to: **WOODWORKER'S BOOK CLUB** • PO Box 9274 • Central Islip, NY 11722-9274

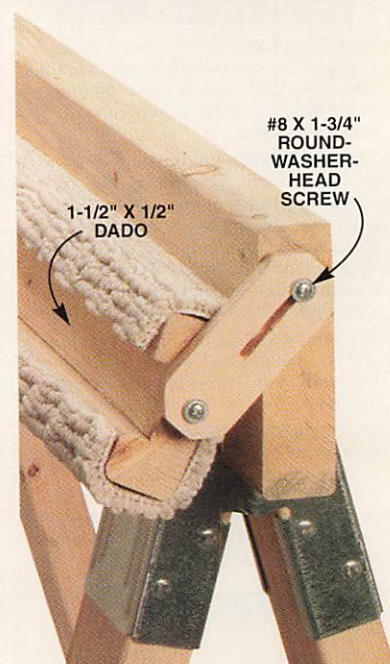
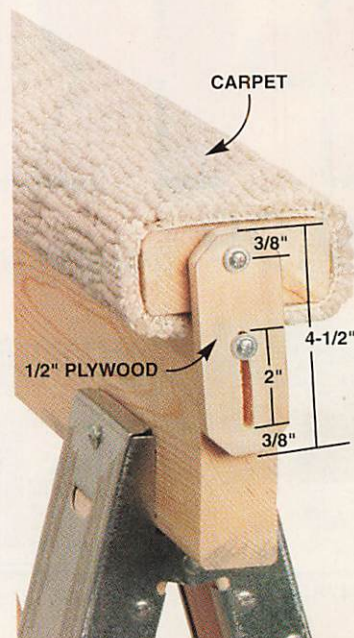
KAB02AW

Workshop Tips

Flip-Top Sawhorses

I got tired of rummaging around for a blanket or anything soft to lay my finished projects on, so I rigged up these simple carpet caps that fit on top of my sawhorses. They just flip out of the way when I'm back to rough work.

James Blandford



NO CORD. NO HASSLE.



#9290
Cordless Router

NO COMPETITION.

Rout where you like, when you like, with the new 19.2 volt cordless router from Porter-Cable. The first — and only — cordless router, it boasts a 600 watt, 23,000 RPM motor to handle nearly any job a 1 1/2 HP router can do. Plus, it fits into any 690 base. And can be used as a plunge



and D-Handle router. Add that to the fact it's part of our 19.2 volt cordless network, and you're free to work wherever your rout takes you. To get one of your own, visit your local Porter-Cable dealer or call 1-800-487-8664 (519-836-2840 in Canada).



#9290 Cordless Router



#881 Flashlight



#9845 Circular Saw



#9887 Hammer Drill



#643 Jig Saw

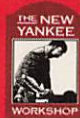


#9884 Drill/Driver



#9837 Tiger Saw

Proud Sponsor of
THE NEW YANKEE
WORKSHOP on
Public Television



PORTER-CABLE
PROFESSIONAL POWER TOOLS

WWW.PORTER-CABLE.COM

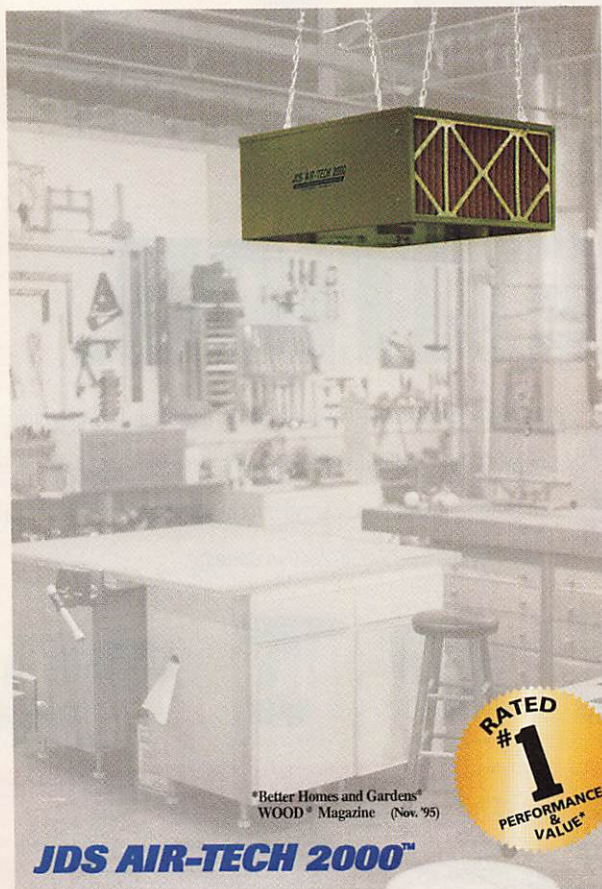


Doweling Jig Saw Stop

My doweling jig ended up in the junk drawer after I bought my biscuit joiner. I brought it out of retirement though, when I set up my chop saw bench. That old doweling jig has become a very useful saw stop. I simply clamp it to my 2x2 fence. I added a tape measure to the top of my fence, which makes setting the stop quick and accurate. It's simple to remove the jig if I need to use it for doweling.

Josh Brower

Sources See page 108



Let's Clear the Air...

JDS AIR-TECH 2000™

Model 750, Still the Best!

- **Variable Speed Control for unlimited air flow settings**
- **Highest Maximum air flow in its class - 1,050 CFM**
- **Convenient On/Off pull chain**
- **Ultra Quiet**
- **1/4 H.P. Motor for heavy duty performance**
- **Antimicrobial 1 Micron Internal bag filter**
- **UL Listed**
- **Lifetime Warranty**

The National Institute for Occupational Safety and Health (NIOSH) recommends limiting wood dust exposures. The JDS Air-Tech 2000 will dramatically improve the quality of the air you breathe. Our new model 750 variable speed allows you to dial in your desired air flow, from a whisper quiet 200 cfm to an ultra performance 750 cfm. This will clean the air in a 30'x30'x8' shop every ten minutes. For larger areas our models 8-12, 10-16 and 2400 are available. The JDS systems will remove 99% of particles as small as five microns and 80% of particles as small as one micron. For the removal of odors, fumes and smoke, our optional charcoal filter is available. To place an order or for the dealer nearest you call us toll-free.

\$259.00

Model 750

Another quality product from

1-800-382-2637

Manufactured in the U.S.A.

www.thejdscompany.com

JDS
COMPANY

*Better Homes and Gardens®
WOOD® Magazine (Nov. '95)

RATED
#1
PERFORMANCE
& VALUE*

JDS AIR-TECH 2000™

THE BEST FINISH IN THE BUSINESS.

\$25 or \$50 REBATE

\$25 rebate with purchase of the D51275K Heavy-Duty 15 Ga. Angled Finish Nailer Kit, D51256K Heavy-Duty 16 Ga. Finish Nailer Kit or D51238K Heavy-Duty 18 Ga. Brad Nailer Kit. \$50 rebate with purchase of a combination of any one of the above listed nailers and any DeWALT Emglo Air Compressor. Offer valid 1/15/2002 through 4/30/2002. Only in the U.S.A. See store or visit www.DEWALT.com for details.

COME SEE IT ONLINE

360°

Product Virtual Tour
www.DEWALT.com



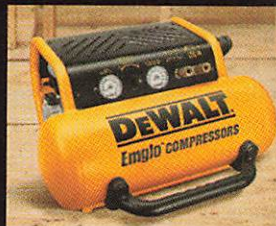
5-position indexed
depth setting



Low profile no-mar pad
with swept-back contact trip



Tool-free reversible belt hook



Introducing hand carry
compressors built DeWALT tough

**\$50 REBATE WITH PURCHASE OF A
COMBINATION OF ANY DEWALT FINISH
OR BRAD NAILER AND ANY DEWALT
EMGLO AIR COMPRESSOR**

DeWALT® FINISH AND BRAD NAILERS. LESS HEAVY, MORE HEAVY-DUTY.



**D51275K Heavy-Duty
15 Gauge 1-1/4" - 2-1/2"
Angled Finish Nailer Kit**
\$25 REBATE



**D51256K Heavy-Duty
16 Gauge 1-1/4" - 2-1/2"
Finish Nailer Kit**
\$25 REBATE



**D51238K Heavy-Duty
18 Gauge 2"
Brad Nailer Kit**
\$25 REBATE

Our new heavy-duty finish and brad nailers were designed with the professional trim carpenter and woodworker in mind. Powerful, durable, and lightweight, the tools pack enough punch to countersink nails into the hardest materials. Innovative features such as indexed depth settings, reversible metal belt hooks, high visibility nosepieces, and low profile no-mar pads make these nailers the best finish tools in the business.

For more information, call **1-800-4-DEWALT** or visit our web site at www.DEWALT.com

©2002 DeWALT. The following are trademarks for one or more DeWALT Power Tools and Accessories: The yellow and black color scheme; the "D"-shaped air intake grill; the array of pyramids on the handgrip; the kit box configuration; and the array of lozenge-shaped humps on the surface of the tool.

DEWALT®

Workshop Tips



Serious Scraping

The ingenuity of this adjustable scraper offers unrivalled versatility. The integral ball joint located

between the blade and handle lets you position each at a multitude of angles with just a quarter turn of the handle. Not only does this afford a comfortable working position, it also lets you easily compensate for a range of hook angles – a feature lacking in most holders.

The 3" x 3" high-carbon steel blade is bevelled on one edge and square on the other three. Each edge can be sharpened straight, curved or custom ground to any profile. For renovation work, you can even shape edges to match moldings.

Great for dressing tabletops, hardwood counters, workbenches, stairs and floors, as well as for glue removal. For heavy-duty scraping jobs such as paint removal, a carbide blade option is also available.

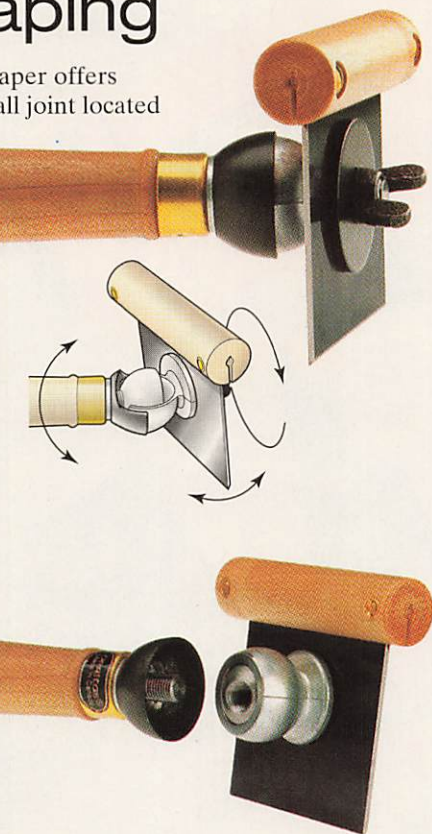
Veritas® Scraper - priced from \$29.95
(Shipping and N.Y. sales tax extra.)

1-800-871-8158 customerservice@leevalley.com

Lee Valley & veritas®

Lee Valley Tools Ltd., 12 East River St., Ogdensburg, N.Y. 13669

Shop online:
www.leevalley.com



Double-Decker Mini Clamp

Here's a great little clamp for those light-duty hobby or craft jobs. Start with two ordinary clothespins, then modify and combine them as shown above. You now have a clamp with triple the capacity of a single clothespin.

Alan Dooley



Magnetic Nail Starter

Over the years I've built dozens of cabinets. Installing the little nails for the shelf standards was the worst part of this job until I discovered this little device called a magnetizer. It's commonly used to magnetize screwdrivers for picking up screws. I used it to magnetize my nail set and now I can pick up and start the little nails with ease.

Sources See page 108

Floyd Steck



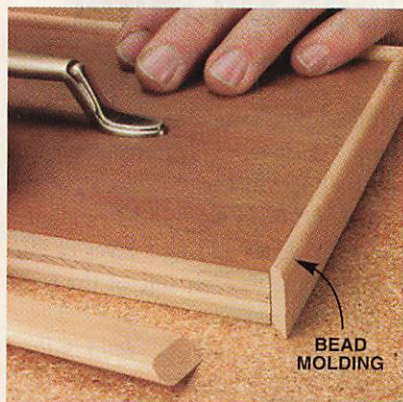
Beaded Edge Detail

I recently spruced up an old vanity by adding a beaded edge detail to the drawers and doors. I started by cutting down the door and drawer fronts by 1/2 in. My drawer and doors were 3/4-in. thick so I made the bead molding 7/8-in. wide by 1/4-in. thick and rounded the edge with a 1/4-in. edge-beading bit. I mitered the bead molding to fit and nailed and glued it on. I refinished the vanity so the new beading blends right in and looks like it was always there.



Spike Carlsen

Sources See page 108



**Incra®
Ultra TS-3d**

- ◆ True machine shop accuracy ... perfect repeatability ... exceptional strength
- ◆ INCRA precision on both sides of the blade with micro adjustability to 0.001"
- ◆ Heavy-duty rail system with 5-point fence lock, plus easy installation

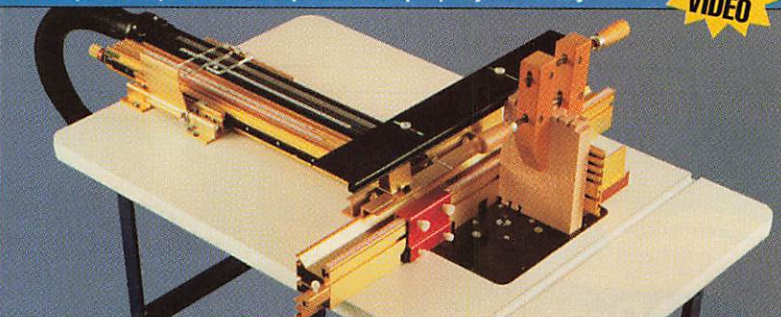
Call for
**FREE
VIDEO**



**Incra®
Twin Linear**

- ◆ Dual carriage, split fence universal woodworking system for the router or shaper table
- ◆ Infeed and outfeed carriages lock together for making box joints and dovetail joinery
- ◆ True splinter-free, zero clearance operation – the quick, easy and safe way

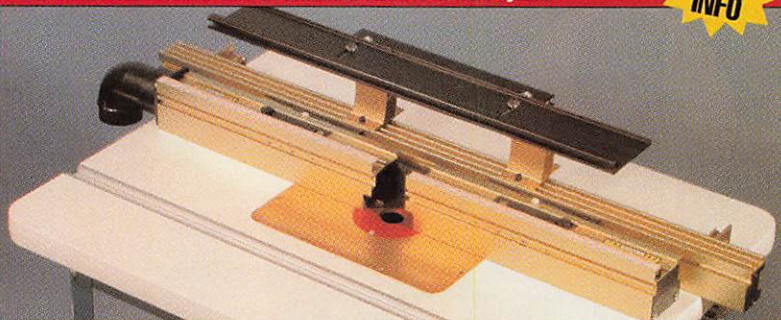
Call for
**FREE
VIDEO**



**Incra®
Wonder Fence**

- ◆ Variable throat, offset adjustable router table fence sets a new standard for accuracy
- ◆ Make raised panels, perfect edge jointing or offset fence halves for accurate shaping
- ◆ For stand-alone on router table or connect to INCRA TS or Ultra System

Call for
**MORE
INFO**



Make ordinary woodworking operations quicker, easier, and more accurate than ever with these great tools from INCRA.



Woodpeckers Inc.
The Incra Tool Source

www.woodpeck.com

1-800-752-0725

Tools & Hardware TOOL CRIB Online

Hello, Thomas Betz. We have Hand Tools, Hardware, Heating & Cooling, and other Tools & Hardware recommendations for you. You're not Thomas Betz, [click here](#).

In Tools

The Blitz Is On!

Right now, you'll find the lowest prices of the season in our limited-time **Woodworking Blitz**. We've got great deals on big-name brands from Delta to DeWalt, Porter-Cable to Powermatic. If you love woodworking, now's the time to buy!

• Shop today in our **Woodworking Blitz**

Featured Categories



Cordless Tools

• Circular Saws

• Drills

• Sanders

• Saws

• See more

#629004GK
Drum Sander

#625002
25" Drum Sander

THE BEST PLACE TO BUY PERFORMAX TOOLS ONLINE

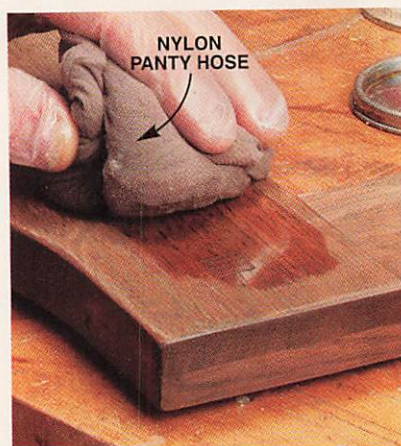
www.toolcrib.amazon.com

Call for your FREE Tool Crib catalog

1-800-635-5140

TOOLS & HARDWARE
amazon.com

Workshop Tips



No-Lint Finishing

When you apply a wipe-on finish with a regular cotton cloth it can leave little bits of fuzz in the finish. To prevent this, take an old pair of nylon panty hose and roll them up into a ball. The nylon holds lots of finish and applies it without leaving any lint behind. It really works great!

John M. Harrington

Suggested list \$299.

ON SALE \$269
NOW FOR ONLY

The Precision Router Lift

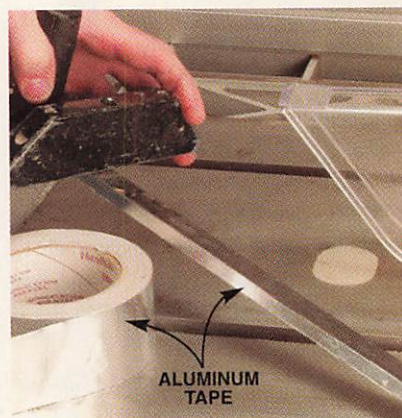
Total control for table mounted routers.



The PRL (Precision Router Lift) fits a PC 7518 directly and is available with adapter collar's for other fixed base routers.

- Change bits above the table.
- Includes (3) aluminum twist lock rings.
- Adjustable index scales.
- Elevated crank handle.
- Includes threaded starting pin.

Woodpeckers Inc.
Precision Router Tables & Accessories
1.800.752.0725 • www.woodpeck.com



Tape-On Miter Gauge Shim

While doing some precision tablesaw work, I discovered my miter gauge was a bit sloppy in the slot. I was in the middle of a project, and I needed a quick fix. After adding a layer of aluminum tape to each side of the bar I was back in action.

John Bullard

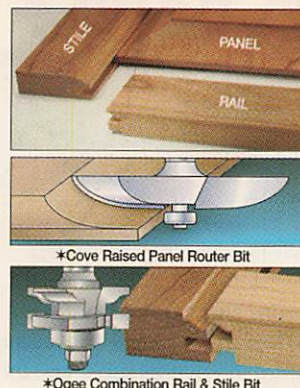
Sources See page 108

Make Beautiful Raised Panel Doors...

with a 1/4" or 1/2" router,
and 1/2" or 3/4" shaper.

Plus, make many other types of doors and projects with our carbide tipped, production quality Raised Panel Door Sets, including: Flat Panel Doors, Kitchen Cabinet Doors, Cathedral Doors, Glass Doors, Wainscoting, Entertainment Center Doors. Sets include Combination Rail and Stile bit, and Raised Panel bit. For our FREE tips and techniques manual order item #9069.

#1438 Raised Panel Door Video\$9.95



1/4" Shank Raised Panel Set

Carbide Tipped! Includes 2" dia. Cove Raised Panel bit with ball bearing and Ogee Combination Rail and Stile bit.

\$69⁹⁵
SET #1301

1/2" Shank Raised Panel Set

Carbide Tipped! Includes 3-1/2" dia. Cove Raised Panel bit with ball bearing and Ogee Combination Rail and Stile bit.

\$79⁹⁵
SET #1302

1/2" and 3/4" Shaper Set

Carbide Tipped! Includes 4-5/8" diameter Cove plus Ogee Combination Rail and Stile Shaper Cutters.

\$99⁹⁵
SET #1303

15 Piece Router Bit Set

MLCS Anniversary Set at a once-in-a-lifetime price!

Featuring these carbide tipped bits:

- 4 Straight (3/16", 1/4", 1/2", 3/4"),
- 1 Cove (1/2")
- 1 Round Over (3/8"),
- 1 Roman Ogee (5/32")
- 1 14° Dovetail (1/2"),
- 1 Rabbeting (3/8")
- 1 Panel Pilot
- 1 45° Chamfer,
- 1 Flush Trim (1/2"),
- 1 Hinge Mortising (1/2"),
- 1 Round Nose (1/4")
- 1 V-Groove (3/8")
- 1 allen wrench and
- 1 bearing to convert Round Over into Beading bit.

\$39⁹⁵
1/4" Shank • #1442
1/2" Shank • #1443

WOOD STORAGE BOX INCLUDED

30 Piece Router Bit Set

Celebrate our Anniversary by saving money!

Featuring these carbide tipped bits:

- 3 Cove (1/4", 3/8", 1/2"),
- 2 Flush Trim (3/8", 1/2")
- 6 Round Over (1/8", 3/16", 1/4", 5/16", 3/8", 1/2")
- 5 Straight (1/4", 5/16", 3/8", 1/2", 3/4")
- 1 Chamfer (45°),
- 1 Slot Cutter (1/4"),
- 1 Rabbeting (3/8")
- 1 V-Groove (1/2"),
- 1 Bevel (25°)
- 1 Panel Pilot (3/8")
- 3 Round Nose (1/4", 3/8", 1/2"),
- 3 Dovetail (14°-1/2", 5/8" & 9°-3/8")
- 2 Roman Ogee (5/32", 1/4")
- 1 Allen Wrench and 1 bearing to convert Round Over into Beading bit.

\$99⁹⁵
1/4" Shank • #1444
1/2" Shank • #1445

WOOD STORAGE BOX INCLUDED

66 Piece Router Bit Set

An amazing price for our most complete set!



- Includes the 30 Piece Set (left) plus these bits:
- Straight (7/16", 5/8", 1"), 1 Bevel (30°),
 - 1 Groove Forming Classical (3/4"), 1 Keyhole (3/8"),
 - Hinge Mortising (1/2", 5/8", 3/4"), Classical Bit (3/16" r),
 - 3 Core Box (1/4", 3/8", 1/2"), 1 Dish Cutter (1"),
 - V-Groove (3/8", 5/8"), Cove (1/8", 3/16", 5/16"),
 - 1 Flat Bottom Sign Lettering (5/8" 60°),
 - 1 Double Cove & Bead, 1 Ogee Filet (1-3/8"), 1 Cove and Bead (5/16" r), 2 Edge Beading (1/4", 3/8"),
 - Dovetail (7.5°-1/4", 14°-3/4", Slot Cutter (3/8"))
 - 1 Point Cutting Round Over (1/2"),
 - 1 Flat Bottom Round Over (1/4" r),
 - 1 Multi Bead/Reed Bit (1/8" r),
 - 1 Double Round Over (5/32" r),
 - 1 Cove Sign Lettering (5/8" 60°),
 - Chamfer (30°, 22.5°, 15°),
 - 4 bearings & allen wrench

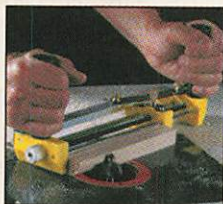
\$224⁹⁵
1/4" Shank • #1446
1/2" Shank • #1447

WOOD STORAGE BOX INCLUDED

Safety Small Parts Holder

Eliminate danger when working with small parts. Securely positions and aligns small parts with quick release clamping action, preventing slipping and keeping fingers away from cutting edges.

Large, easy-to-grip handles guarantee precision and control when custom-shaping small pieces. Handles wood stock up to 10" and any cut angle up to 45°. Works for router or saw tables, drill presses, band saws, joiners and more. Great for toy parts, door rail ends, and other detail jobs that would be dangerous or impossible without it.



\$19⁹⁵
ITEM #1451

6 Piece Cabinetmaker Router Bit Set

1/2" shank Carbide Tipped set. Make kitchen cabinets, raised panel doors, table tops and drawers. For up to 3/4" wood. Includes these bits:

- Glue Joint (1-3/4")
- Drawer Lock (1-3/4")
- Rail & Stile Matched Pair (1-5/8")
- Ogee Raised Panel (2-3/4")
- Round Over & Ogee Door Lip (1-1/4")



\$114⁹⁵
SET #1452

WOOD STORAGE BOX INCLUDED

16 Piece Forstner Bit Set

Includes these sizes:

- 1/4", 3/8", 1/2", 5/8",
- 3/4", 7/8", 1",
- 1-1/8", 1-1/4",
- 1-3/8", 1-1/2",
- 1-5/8", 1-3/4",
- 1-7/8", 2", 2-1/8"



\$43⁹⁵
SET #1418

WOOD STORAGE BOX INCLUDED

1-800-533-9298

FREE CATALOG • Order securely online at:
mlcswoodworking.com

MLCS
ROUTER BITS AND PROFESSIONAL WOODWORKING PRODUCTS

FREE Shipping!
IN CONTIGUOUS USA FOR ALL ITEMS



MLCS, P.O. Box 4053AC, Rydal, PA 19046

What do you look for in a biscuit joiner?

"...when I asked a group of professional cabinetmakers what they looked for in a biscuit joiner, their answer was, **'the name Lamello on the side.'**"

CWB - Custom Woodworking Business
Biscuit Joiners Comparison Test, December 2000

Once again, the top-of-the-line Lamello Top 20 is rated the best overall!

"At the top of the overall rankings, the Lamello Top 20 is hard to beat on any score."

See why nothing beats a Lamello for power, precision and balanced design for use on wood, laminates, solid surface and aluminum materials.

Send for
**FREE
Lamello
Catalog**

Lamello Classic C2

- Swivel front fence
- Maximum depth
- Extra-flat, anti-slip pads
- Stop square for vertical work



With Step
Memory
System

E-Mail:
lamello@csaw.com

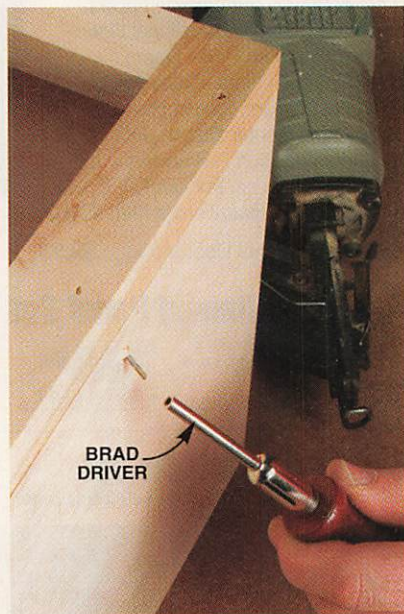
**Purchase online at
www.csaw.com**

or call 1-800-252-6355!

COLONIAL SAW
MACHINERY SALES AND SERVICE

Workshop Tips

Brad Driver in Reverse



My pneumatic nailer makes quick work of assembling cabinets, but if a nail blows out the side, it can be a real mess. Those power-driven nails often bend or break if you try to pound them back with a hammer or pull them through with a pliers.

Faced with this problem, I discovered a new use for my old, hand-pushed brad setter. It works great to push the errant nail back so I can get ahold of the nail's head with a pliers. The hollow barrel of the setter goes over the end of the nail and keeps it from bending. There's a metal plunger inside the barrel that pushes the nail back up. I sometimes have to tap on the setter with a hammer to get the nail moving. **AW**

Mary L. Nelson

Sources See page 108

If you have an original Workshop Tip, send it to us with a sketch or photo. We pay \$100 for each one we print. Send to:
Workshop Tips, American Woodworker, 2915 Commers Drive, Suite 700, Eagan, MN 55121. Submissions can't be returned and become our property upon acceptance and payment.

NEW

THE AMAZING
Cyclone Rake®

**Ends
Back-Breaking
Property Cleanup
Forever!**

- Commercial-power vacuum turbine lifts and pulverizes tons of leaves, twigs, pine needles and lawn debris **as you drive.**
- Great for big grass-mowing jobs—Giant 300 gallon capacity clears huge areas without stopping.
- Hitches to virtually any riding mower or tractor.
- Folds up flat for compact storage. You can actually hang it on the wall!

Unique design folds flat for easy storage. It even hangs on the wall!

Free Information Kit

**MAIL THIS
COUPON TODAY**

OR CALL TOLL-FREE

1-800-341-7733

www.CycloneRake.com/aw

YES! Please rush me **FULL INFORMATION** on the revolutionary **CYCLONE RAKE®** and special pre-season sale prices.

NAME

ADDRESS

CITY STATE ZIP

MAIL TO: WOODLAND POWER PRODUCTS, INC. Dept. AW0302

©2001, Woodland Power Products, Inc. 72 Acton St., West Haven, CT 06516

SUPERSHOP 10-IN-1 WOOD & METAL SHOP

BECOME A BETTER WOODWORKER -
GUARANTEED!

**SUPER
SHOP**

SuperShop will increase
your woodworking skills or
WE'LL BUY IT BACK!

**You'll make projects
with higher QUALITY,
PRECISION, SPEED & SKILL!**

- New, different & BETTER than "lookalike" machines
- 10 most-used tools in 1 for ultimate versatility
- Premium quality makes it an outstanding value
- Rock-solid 450 lbs., 2.5 times MORE than others
- State-of-the-art ELECTRONIC speed controls
- Extra POWER-IN-RESERVE DC motor
- 30-Day RISK FREE Buy-Back Offer & industry-leading Warranty

Get your **FREE SUPERSHOP REPORT** -
"Better Woodworking GUARANTEED!"

FREE!

SUPERGUARANTEES YOU:
Your Hands-On Craftsmanship
Will Improve Within 30 Days
OR YOUR MONEY BACK!

CALL TOLL FREE

1-800-476-4849

Or this Mail to: **SuperShop** Dept. AWW, P.O. Box 1517, Ann Arbor, MI 48106-1517

☐ **YES!** Tell me how SuperShop will increase my craftsmanship. Rush facts, specs, and CURRENT SALE OFFER!

Name _____

Address _____

City _____

State _____

Zip _____

Rockler.com
WOODWORKING SUPERSTORE

JET

Win a Saw!

3 HP XACTA Saw™ with 50" Fence



Register to win at
www.rockler.com/jet
and receive
Rockler's email
newsletter for free!

No purchase necessary. See official rules at www.rockler.com/jet for details. Enter online at www.rockler.com/jet or send your name, address, phone and e-mail address on a postcard to: Rockler/ JET XACTA Saw Drawing, 4365 Willow Drive Medina, MN 55340. One entry per household. Void where prohibited by law. Entries must be received by April 30, 2002.

WOW!
LOOK WHAT A TYPICAL TABLE SAW CAN DO.
Convert your table saw into a molder with the Magic Molder.



**MAGIC
MOLDER™**



818.782.0226

A Division of:



L.R.H.
Enterprises, Inc.

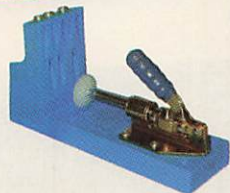
9250 Independence Ave. Chatsworth, CA 91311 818.782.0226 or FAX 818.909.7602
Email: sales@lrhent.com Website: www.lrhent.com

Kreg™

POCKET HOLE SYSTEMS

**Have you discovered the
Pocket Hole Advantage?**

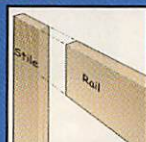
Experience the joinery
technique everyone's
talking about...



Kreg offers solutions to all of your joinery needs with
Pocket Hole Systems from \$20 to \$3,000, including
our most popular tool the

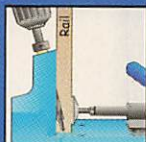
Kreg Jig® ProPack.

1



Cut wood square.

2



Drill pocket holes.

3



Clamp and drive
self-tapping screws.

Kreg

Visit our website to learn more.

www.kregtool.com

The Well-Equipped Shop

By George Vondriska
and Tim Johnson

Super-Smooth Benchtop Planer

Delta's two-speed portable planer (model 22-580) will set you back \$450. That's \$50 to \$150 more than most other portable planers. Most woodworkers get darn good results with their single-speed benchtop planers, so we wanted to know, is having a second speed worth the extra dough?

Before we answer that question, let's clarify what "two-speed" means. The 22-580's cutterhead speed doesn't change. Instead, you can slow down the feed rate. When a board passes under the cutterhead more slowly, it gets more knife cuts per inch (cpi) and the result is a smoother surface.

Standard single-speed, portable planers operate at around 60 cpi. With the 22-580, you can choose 60 cpi (regular speed)

or 90 cpi (slow speed) with the flip of a switch.

Most boards planed at regular speed will be acceptable. But with the 22-580, a final pass at slow speed results in a smoother finish and less sanding.

You'll see far less tear-out when you plane "problem" boards at slow speed. Any board with curly figure or reversing grain qualifies (see photos below). Every once in a while, a board tears-out badly, for no apparent reason. With the 22-580, you can probably save it by making the last couple passes at slow speed.

The Delta 22-580 handles stock up to 13-in. wide and from 1/8-in. to 6-1/2-in. thick. It's equipped with double-edged disposable knives that are a snap to change (a replacement set costs

\$40), and a cutterhead lock to control snipe. The dust shroud, a \$25 accessory, exhausts left or right.

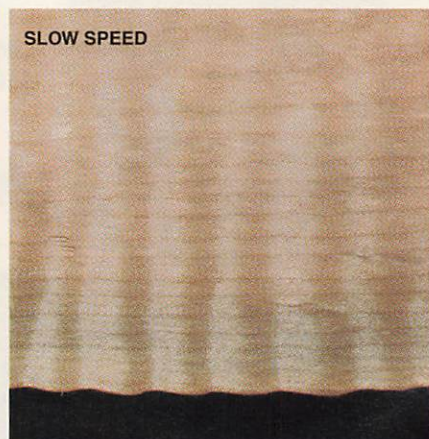
The 22-580's height-adjustment mechanisms are first rate. A slick "blade-zero" indicator makes it easy to set the cutterhead for the first pass. The stock thickness indicator is easy to read (surprise!), and an indexing ring on the handle lets you make precise adjustments.

Would we spend the extra bucks? Yes. The 22-580 would have fared very well in our portable planer tool test (AW #79, April 2000, page 82). Its two-speed capability really puts it in a class of its own. Saving a few pieces of highly figured (i.e. expensive) wood with the slower speed will quickly offset the price difference.

Sources See page 108



REGULAR SPEED



SLOW SPEED

Curly maple planed at regular speed looks like a potholed road. Removing the same amount (1/32 in.) at slow speed dramatically improves the finish quality.



RAYMON MORENO

New Left-Tilt Cabinet Saw



PHOTO COURTESY OF MANUFACTURER

Grizzly Industrial, G1023SL;
\$895.

Grizzly Industrial has jumped into the left-tilt cabinet saw pool. At \$895, the G1023SL should make a big splash. It costs about \$300 less than other left-tilt saws on the market.

What's special about a left tilt? It's safer, for one thing. Angling the blade away from the rip fence means the workpiece won't get trapped between the angled blade and the fence—no kickback. A left tilt also allows you to miter large pieces, like cabinet sides, with the good face up. Marking cuts is easier, because you're measuring outside lengths. Any tear-out caused by the blade will be hidden on the inside of the joint.

Like many cabinet saws, this machine has a 3-hp, 220-volt, single-phase motor. It has a 26-in. rip capacity and comes with a T-style rip fence. Power comes through a magnetic switch, the safest type to have on a tablesaw.

Sources See page 108

"...first thing they say is, 'Wow!'"
That's when I tell them about the Rojek combination machine.

"To achieve the results I expect, I needed precision equipment. Using the Rojek KPS 300 allows me to create furniture I'm proud of, amazingly accurate. Dollar for dollar, if you added up all the money I spent on other woodworking tools, I should have bought a Rojek at the start. It makes precision woodworking very affordable. Its compact design saves space, and its efficient dust collection system and European safety devices can't be beat.

Now, when my friends ask my advice about equipment I tell them to buy a Rojek."

—Steven Fee, New Hampshire
Builder / Furniture Making
Enthusiast

The Rojek European combination machine features five precision tools in one - sliding table saw, shaper, jointer, planer, and mortiser - making it the complete workshop for the serious woodworker. With outstanding fit and finish, and great value, the Rojek KPS 300 is built for a lifetime of woodworking.

Let us make you a believer!
Call toll-free:

800-787-6747



TM
TECH MARK, INC.

Exclusive
Distributor
in the
United
States

7901 Industry Dr., North Little Rock, AR 72117
Fax: 501-945-0312 • Website: www.tech-mark.com
COMBINATION MACHINES • SHAPERS • JOINTERS
PLANERS • SLIDING TABLE SAWS • SLOT MORTISERS

4-WAY MONEY-MAKER!

● Molds ● Planes ● Sands ● Saws



Turn a \$5.00 rough board into \$75.00 worth of finished molding in just minutes! Make over 350 standard patterns, tongue & groove, picture frame stock, any custom design. QUICKLY CONVERTS from Planer/Molder to Drum Sander or power-feed Multi-Blade Rip Saw! Made in U.S.A. 5-Year Warranty. Choose from 12", 18" or 25" models.

Variable Feed Makes the Difference!

Just a twist of the dial adjusts the Woodmaster from 70 to over 1,000 cuts per inch. Produces a glass-smooth finish on tricky grain patterns no other planer can handle.

Plenty of American-made "muscle" to handle money-saving, "straight-from-the-sawmill" lumber. Ideal for high-value curved molding.

Best Value - "After checking them all, Woodmaster was obviously the best deal for the money. Also I would like to acknowledge the polite and prompt service."

E. D. Holtz, North Carolina

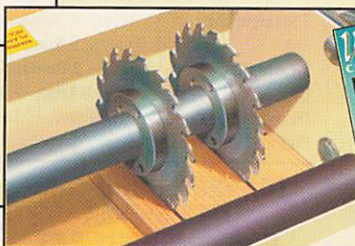
Runaway Hobby - "Thanks to Woodmaster, what started as a hobby is now a full-time millwork business."

D. A. Probst, Pennsylvania

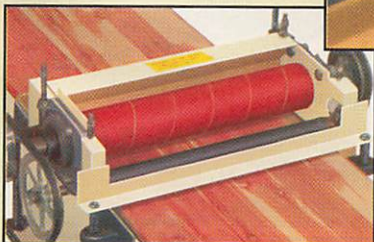


Woodmaster's Quick-Change Molding Head lets you create custom moldings from any stock. Choose from over 350 standard trim and picture frame patterns...or design your own!

New rip saw attachment lets you gang-rip with power feed in a fraction of the time it takes for separate hand-fed passes on an ordinary table saw.



Power-fed sanding speeds production and improves the quality of your work. No more waves or cross-grain scratches.



350+ PATTERNS!

**Call Today
For FREE FACTS!
1-800-821-6651**

Ask for Extension PY71

☐ **YES!** Rush my **FREE** Information Kit!
Woodmaster Tools, Dept. PY71,
1431 N. Topping Avenue Kansas City, MO 64120

NAME _____

ADDRESS _____

CITY _____

STATE _____ ZIP _____



The Well-Equipped Shop

Adjustable-Height Bench

Want to save your back? If it seems your workbench is never the right height for the task at hand, the Noden Adjust-A-Bench may be just the ticket. For \$380, you'll end up with a rock-solid bench that adjusts from 27- to over 43-in. tall, quickly and easily.

Cutting dovetails? Raise the bench. Assembling a big project? Lower the bench. Mount your portable planer or benchtop lathe at a comfortable working height. The list of applications goes on and on.

The name Adjust-A-Bench is a little misleading, because you aren't actually buying a bench. Instead, you get a pair of ratcheting frames that form the ends of the base. You have to supply hardwood rails (about \$20) to connect the two ends, plus your own top. The top could be anything from a solid-core door (\$75) to a traditional, solid-wood benchtop with face and tail vises (\$400).



It's easy to raise the top. Just lift it, one end at a time. The ratcheted adjustment system has twelve stops. Stepping on the foot pedal while lifting up on the top releases the ratchet and lowers the top. Accidentally stepping on the pedal while you're working won't make the top come crashing down.

Sources See page 108

THE BEST PLACE TO BUY OVER 1,000 DELTA TOOLS ONLINE

www.amazon.com/delta

Call for your FREE Tool Crib catalog
1-800-635-5140

TOOLS & HARDWARE
amazon.com

PriceCutter.com
"THE WOODWORKER'S BEST VALUE"

25 PIECE ROUTER BIT SET
CASE INCLUDED
7 Straight Bits: 1/4", 3/8", 1/2" and 3/4" diameter plus for plywood dado: 3/8", 1/2" and 3/4" diameter, 5 Roundover Bits: 1/8", 3/16", 1/4", 3/8", 1/2" radius, 3 Cove Bits: 1/8", 3/16", 1/2" radius, 2 Roman Ogee Bits: 1/2", 3/4" radius, 2 Round Nose Bits: 3/8" and 1/2" diameter, Flush Trim: 1/2" D x 1" L, Rabbeting: 1/2" L x 1/2" depth, Dovetail: 1/2" D x 14 deg., V-groove: 1/2" D x 90 deg., Chamfer: 3/8" L x 45 deg., Picture Hanging/ Keyhole: 3/8" diameter.

16 PIECE SURE-GRIP HEX SHANK FORSTNER BIT SET
High speed steel bits with improved Sure-Grip Hex shanks. In sizes 1/4" to 2-3/8" (in 1/8" increments)
Case included.

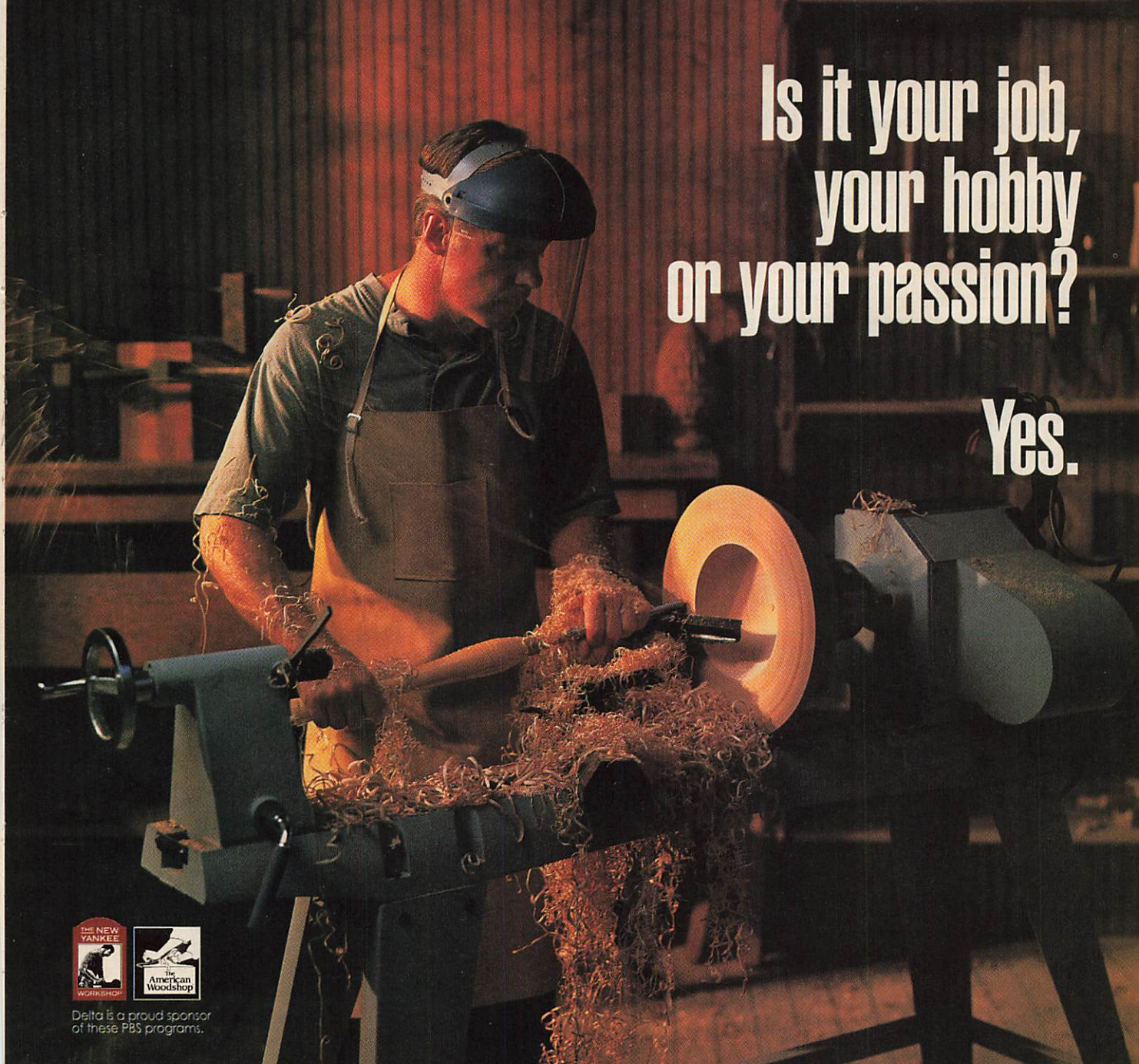
1/4" Shank
Reg \$220.75
NOW \$99.99 #90016

1/2" Shank
Reg \$109.99
NOW \$43.99 #90019

WWW.PRICECUTTER.COM
1-888-288-2487
PriceCutter.com, P.O. Box 1100 Chardon, OH 44024

Is it your job, your hobby or your passion?

Yes.



Delta is a proud sponsor
of these PBS programs.

Whether you're a professional or a hobbyist, Delta has a lathe to meet your needs.

If you're new to the world of turning, turn to Delta's Midi-Lathe and start creating decorative projects like pens and small bowls. Looking to turn larger stuff? Turn to the 14" Work Shop Lathe. Need even greater capacity to turn heavy spindles and very large vessels? Then turn to Delta's 16" Steel Bed Lathe. All offer the features you want. Plus the versatility and stability you need. For the name of your nearest dealer, call Delta Machinery at 800-438-2486 (U.S.) or 519-836-2840 (Canada). Or visit deltamachinery.com.



 **DELTA**[®]

SERIOUS WOODWORKING TOOLS SINCE 1919.

The Well-Equipped Shop

Freud Jigsaw With Easy Blade Changes

Jigsaw blade changes are a snap with Freud's new FJ85. To top it off, the FJ85, which has a 6-amp motor with variable-speed control and orbital-blade action, sells for only \$120. It's a bargain!

Tool-free blade changing isn't new to jigsaws, but regardless of price, Freud's spring-loaded system is one of the best. Just open the release, slip in the blade, lock, and you're good to



Inkra®
MITER1000

- ◆ 41 Indexed Angle Stops over $\pm 90^\circ$ range
- ◆ 18" Incra Track Fence with Slide Stop
- ◆ Steel GlideLOCK™ Miter Bar with 6 Width Adjustment Points

SALE
\$89

Inkra®
MITER3000

- ◆ 364 Indexed Angle Stops over $\pm 90^\circ$ range
- ◆ 27" Miter Fence + Dual-Flip Stop
- ◆ Steel GlideLOCK™ Miter Bar with 8 Width Adjustment Points

SALE
\$219

Inkra®
MITER5000

- ◆ 364 Indexed Angle Stops over $\pm 90^\circ$
- ◆ 36-64" Miter Fence + Dual-Flip Stop
- ◆ Steel GlideLOCK™ Miter Bar with 10 Width Adjustment Points
- ◆ Integral Hold-down Clamping System
- ◆ Renewable Zero Clearance Right Panel

SALE
\$299

Produce perfect gap-free hairline glue joints on the mitered corners of any multi-sided object on your first try without trial-and-error setups.

All models include: Adjustable GlideLOCK Miter Bar, Incra Specified Fence with Stop Positioner, and FREE Video Brochure.



Woodpeckers Inc.

The Incra Tool Source

www.woodpeck.com

1-800-752-0725

go. When it's time to change blades, the internal spring spits out the blade like a watermelon seed. This is especially handy when a blade breaks right at the end of the blade mount, and it's too short to grab and pull out.



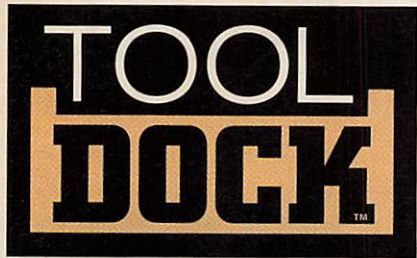
Blade changes are easy because of the FJ85's quick-release mechanism.

The FJ85 is also outfitted for dust collection, a feature you don't find on many other jigsaws. The system doesn't work great, but it's better than nothing.

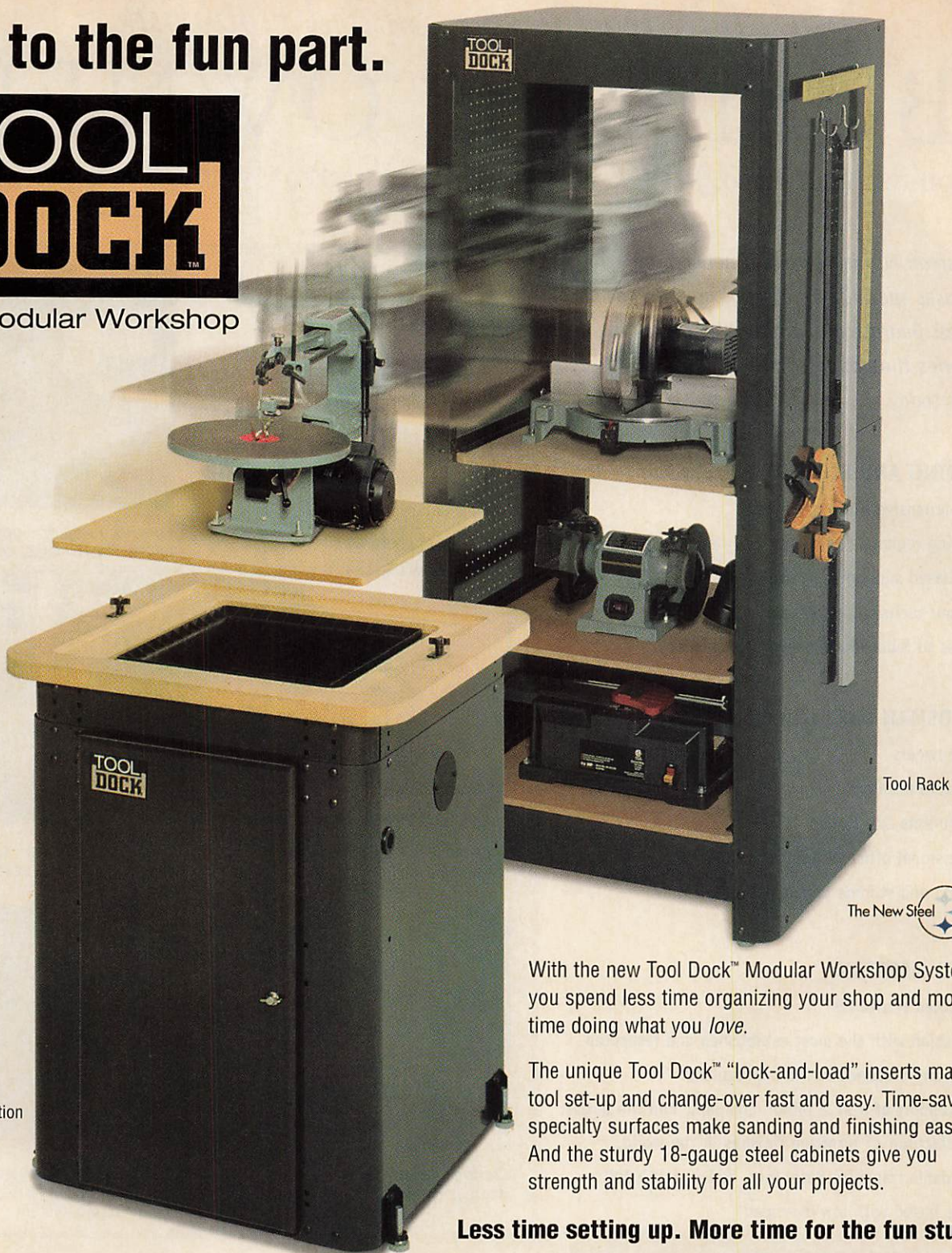
The FJ85 has a removable plastic base to protect material that would get scratched by its metal base. What it *doesn't* have is a blower to keep the work area clear. You'll have to provide your own hot air!

Sources See page 108

Get to the fun part.



The Modular Workshop



With the new Tool Dock™ Modular Workshop System, you spend less time organizing your shop and more time doing what you *love*.

The unique Tool Dock™ "lock-and-load" inserts make tool set-up and change-over fast and easy. Time-saving specialty surfaces make sanding and finishing easier. And the sturdy 18-gauge steel cabinets give you strength and stability for all your projects.

Less time setting up. More time for the fun stuff.



Router Station



Shop Bench



Multi-Station



Mobile Station



Tool Crib with
Corner Top

For more information or an outlet near you...

www.tooldock.com

1-866-TOOLDOCK

Toll-free call 1-866-866-5362

Tools not included. Patent pending.

Talented Creator. Skilled Hobbyist.

BUSINESS OWNER.

You're already two. With Guardsman FurniturePro®, you can become all three!

Guardsman FurniturePro is a network of franchises specializing in furniture-related services. Guardsman FurniturePro has available territories throughout North America, so call us today.

TRAINING AND SUPPORT PROGRAMS:

- Comprehensive initial training
- Ongoing regional workshops
- Web-based support programs
- 24-hour technical assistance
- Access to fellow FurniturePro franchisees

GUARDSMAN FURNITUREPRO CUSTOMERS:

- Homeowners
- Furniture retailers
- Restaurants and Hotels
- Professional office buildings
- Moving and storage companies

NOT TO MENTION:

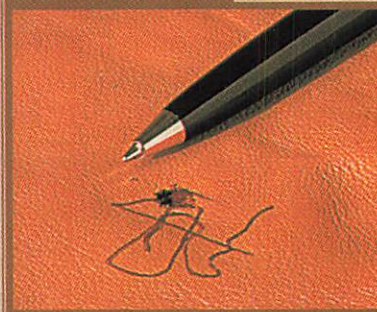
- Protected territories
- Affiliation with the most established and respected name and presence in the marketplace
- The support of a \$2.2 billion company, and the largest manufacturer of furniture finishes in the world.
- Affordable franchise entry fees, as low as \$9,500
- Home based with low overhead!

Profit Centers



Furniture Repair - gouges, scratches, burns, water marks, dents and more

NEW THIS YEAR



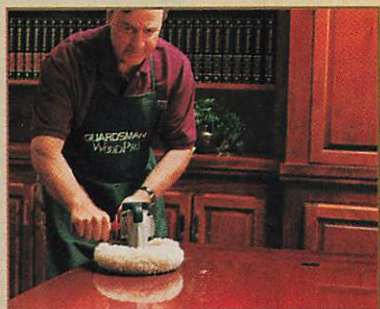
Leather Cleaning and Repair - stain removal, recoloring, and more



Upholstery Services - spot cleaning, panel replacement, seat re-upholstering



Cabinet Refurbishing - cleaning, degreasing, repairing and polishing



Refinishing - complete stripping and refinishing using an eco-friendly, water-based system



For Information Call

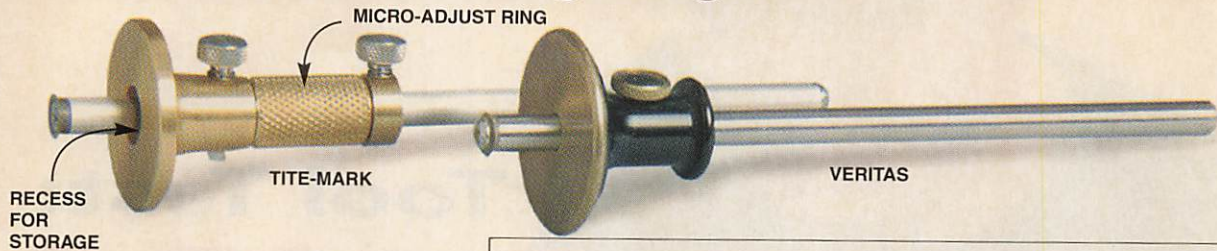
800.496.6377

www.guardsmanfurniturepro.com

GUARDSMAN
FurniturePro®

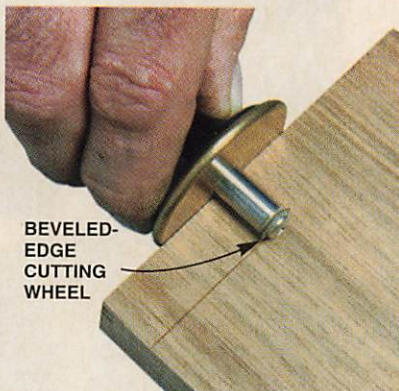
The most trusted name in furniture repair™

Our Favorite Marking Gauges



Marking gauges scribe reference lines on wood for saw and chisel cuts. If you want to cut dovetails by hand, you've got to have one. Gauges that score the wood with a beveled-edge wheel, like the ones shown here, work best. Pin-type gauges merely scratch the wood and can't mark a crisp line across the grain. Knife-type gauges mark crisply, but they require initial and frequent sharpening. Wheel gauges are ready to go right out of the box.

A no-frills marking tool you can depend on, like the Veritas (above right), costs \$20 or less (see Sources, page 108). If your mitts tend to fumble with small parts and fine adjustments, the Tite-Mark (\$80) is worth a close look because it has a great micro-adjust mechanism. **AW**



The wheel cuts like a knife, incising crisp lines with or across the grain. Its rounded shape won't catch or dig in. The bevel holds the gauge against the stock so the lines don't wander. The wheel doesn't rotate during use, but you can reset it to get a fresh edge.

Sources See page 108

24" Horizontal Drum Sander

T15250

- (2)-5" Diameter Aluminum Drums
- High Quality Conveyor Belt
- 6 - 30 FPM (Conveyor Belt)
- Magnetic Safety Switch
- 3 HP, 230V, 1PH Motor
- 1/4 HP Conveyor Motor
- 463 lbs.

FREE SHIPPING
In Continental U.S.



Sanding Rolls Also Available

We are a Full Line General Dealer

We Accept

VISA, MASTER CARD,
DISCOVER and
AMERICAN EXPRESS

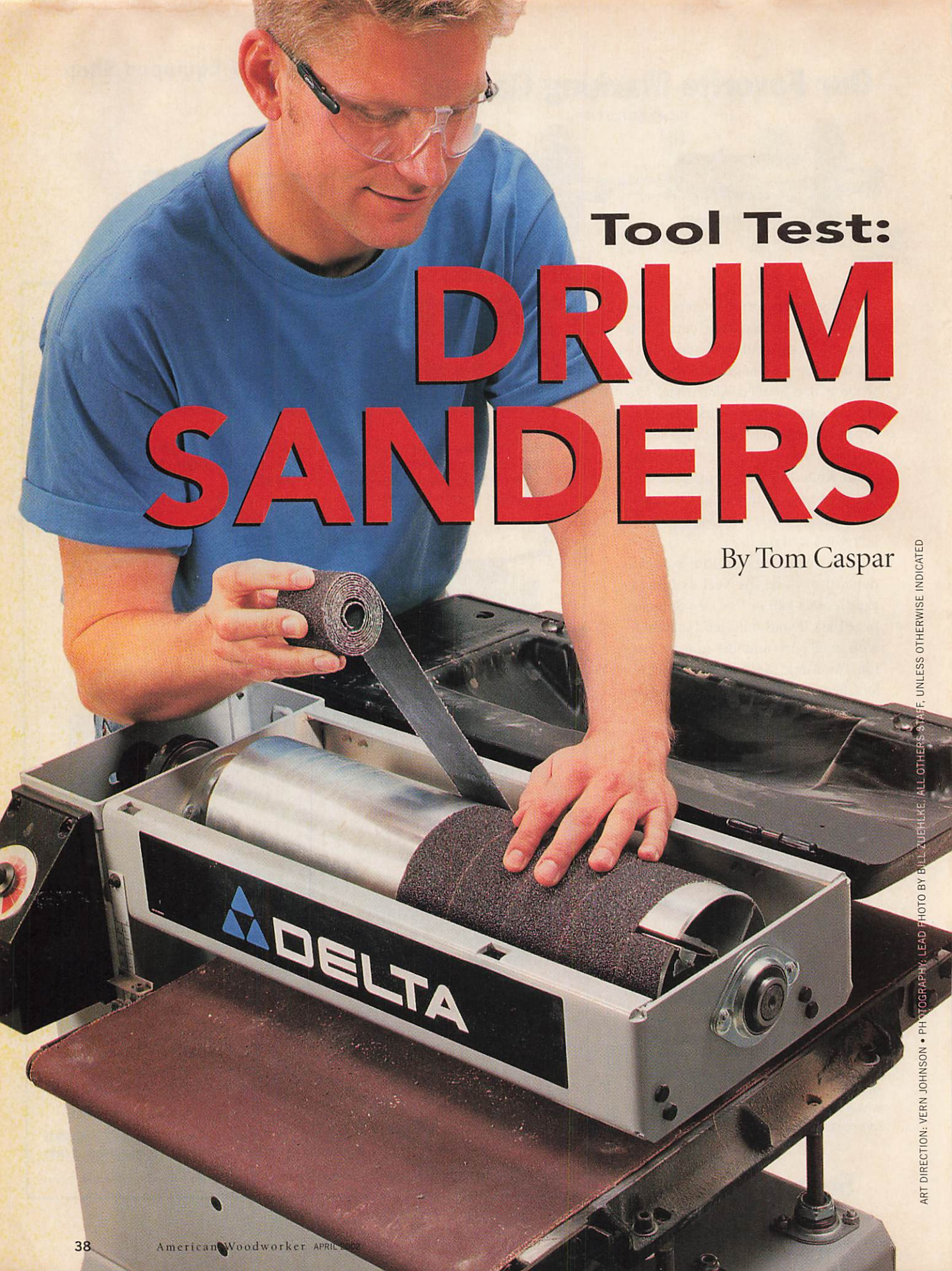
HARTVILLE
HARDWARE

HOME IMPROVEMENT & BUILDING CENTER

940 West Maple St. Hartville, OH 44632

1-800-877-3631 • FAX: 330-877-4423
E-Mail: tools@hartvillehardware.com

STORE HOURS: M-TH 8 a.m.-8 p.m. • T,W,F 8 a.m.-6 p.m. • SAT 8 a.m.-5:30 p.m. • SUN. Closed



Tool Test: **DRUM SANDERS**

By Tom Caspar

ART DIRECTION: VERN JOHNSON • PHOTOGRAPHY: LEAD PHOTO BY BILL ZUEHLKE, ALL OTHERS STAFF, UNLESS OTHERWISE INDICATED

Raise your hand if you like to sand. Anybody? I didn't think so. We all like to get this chore over with as quickly and painlessly as possible. A drum sander may be just what you've been looking for.

We tested eight drum sanders and one basic, wide-belt sander, all priced under \$2,200 (Fig. A). That's just the tip of the iceberg when it comes to sanding machines, however. You can easily spend a lot more.

If all a drum sander does is save time sanding, is it worth it? We've heard dozens of stories from folks who have taken these machines way beyond simply sanding a board. Their uses seem limited only by your imagination. Even if you're not in the market for one today, this is a machine that's definitely worth taking a closer look at.

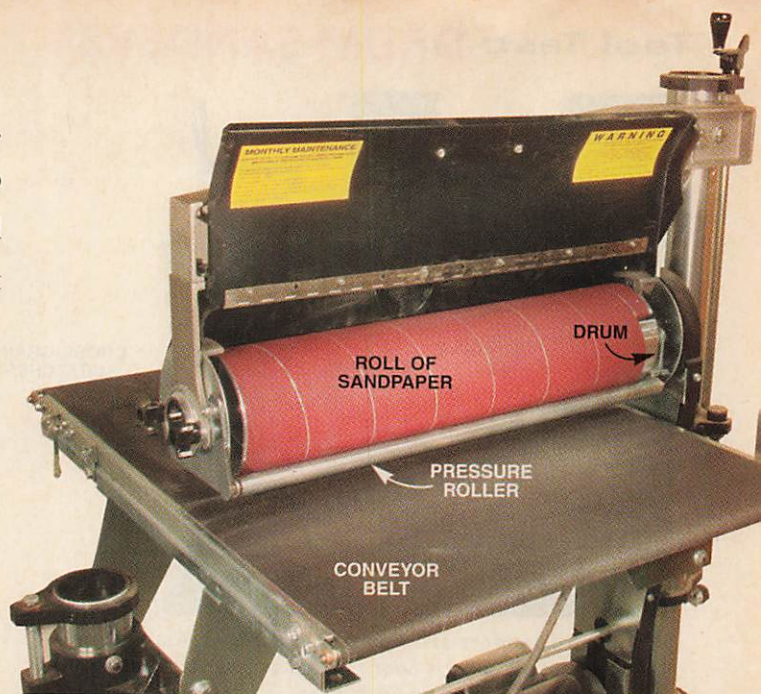
How Drum Sanders Work

Drum sanders are pretty simple machines (Photo 1). A powered conveyor belt feeds wood underneath an open box. This continuous belt is made of a non-slip material and is driven by a fairly small, slow-speed motor.

Inside the box there's typically a rotating drum powered by a much larger motor. The drum is wrapped with a continuous strip of sandpaper (Photo 2). A single grit of sandpaper won't serve all your sanding needs, of course. You need easy access to the drum and a quick-change system to install rolls of coarse, medium and fine paper.

On either side of the drum, there's a pair of pressure rollers. Unlike a planer, these rollers are not powered. Their job is to press the wood against the conveyor belt. Without the pressure rollers, the sanding drum would shoot your wood right out of the machine!

Drum sanders come in three different styles: open-end, closed-end and double-drum. Before we cover the differences between these styles, let's take a look at what they have in common.



1 Four major parts keep a drum sander humming. The drum itself is a long tube wrapped with sandpaper. A powered conveyor belt feeds boards under the drum. Free-spinning rollers on either side of the drum press down on the wood, holding it tight to the conveyor belt. When the board contacts the drum, friction from the belt prevents the wood from kicking out of the machine.



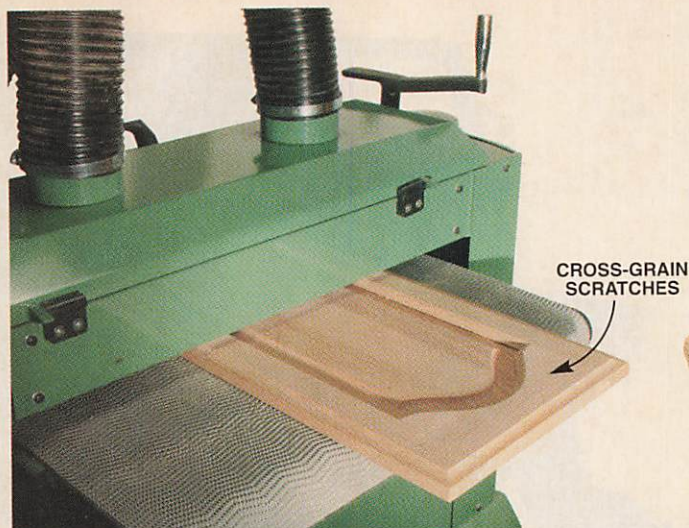
Fig. A Price of Drum Sanders in this Test

Drum sanders are fairly expensive tools. The most basic models cost about the same as a fully equipped contractor's saw. However, these machines can greatly expand the capabilities of your shop.

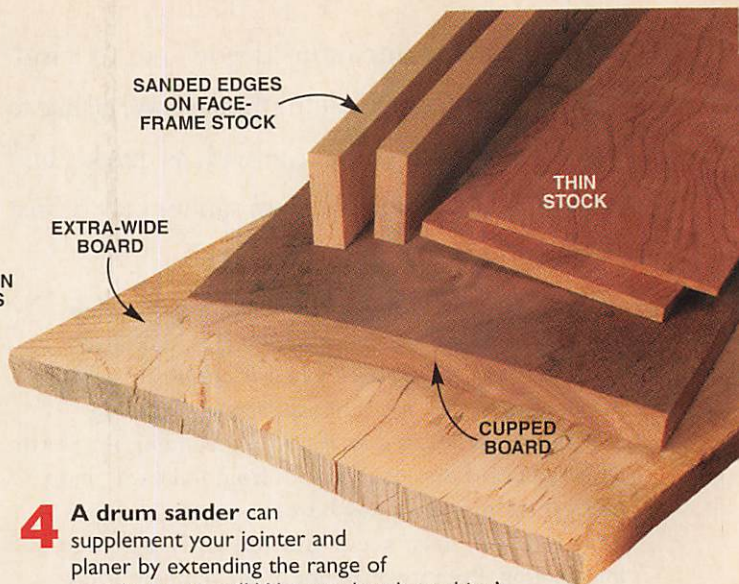


2 Wrap a long roll of sandpaper around the drum and you're ready to go. One grit is rarely enough to get a job done, just like in hand sanding. It's not unusual to wrap and unwrap three different grits for a single job. Choosing the right grit to start out with is crucial.

Tool Test: DRUM SANDERS



3 Drum sanders are versatile machines. You'd never think of passing this door through a planer, but a drum sander can both even up its joints and prepare it for finishing. All the sanding scratches go in straight lines, however. Further sanding by hand with a random-orbit sander may be necessary, particularly to remove cross-grain scratches.



4 A drum sander can supplement your jointer and planer by extending the range of wood you can mill. We tested each machine's ability to surface extra-wide boards, remove the cup from warped boards and panels, remove saw marks from surfaces for glue-up (such as the edges of face-frame stock) and accurately thickness thin, resawn boards.

What Drum Sanders Can and Cannot Do

Drum sanders have a powerful appeal (Photo 3). They are surprisingly versatile and can be the single answer to many shop problems (Photo 4). However, they can't perform miracles. Let's take a hard look at what a drum sander realistically can and cannot do.

Drum sanders have a larger range of capacity than most jointers and planers. First, there's the extra width. You can work on material from 24- to 32-in. wide with the drum sanders we tested. Second, there's the short stuff. Drum sanders can safely manage material as small as 2-1/4- to 9-in. long. Third, very thin pieces are no problem. For example, you can remove bandsaw marks from 1/16- to 1/8-in.-thick resawn wood.

Surfacing rough lumber is something of a mixed bag with a drum sander. The extra width capacity can be a godsend for super-wide boards. Some drum sanders can take the cup out of a board (warp across the width), but few work well in removing bow and twist (warp down the length). A long-bed jointer is far better for these jobs.

Jointers and planers remove wood relatively fast, while drum sanders have a much slower pace. They rarely take off more than 1/64 in. at a time.

A drum sander can certainly produce a smooth surface, but not necessarily a uniformly flat one. It's not unusual for a drum sander to create very shallow dips across the width of the stock at random intervals. These dips are hard to see,

but they'll show up under a finish. They can be sanded out by hand later.

Tear-out is never a problem with drum sanders. You'll get a smooth surface whether you're surfacing highly figured wood or evening up a top composed of boards with grain that goes in opposite directions.

Drum sanders can remove saw marks from the edges of face-frame stock, but some round over those edges. (Crisp, square edges, such as the kind you get on a jointer, are necessary for tight, invisible glue joints.)

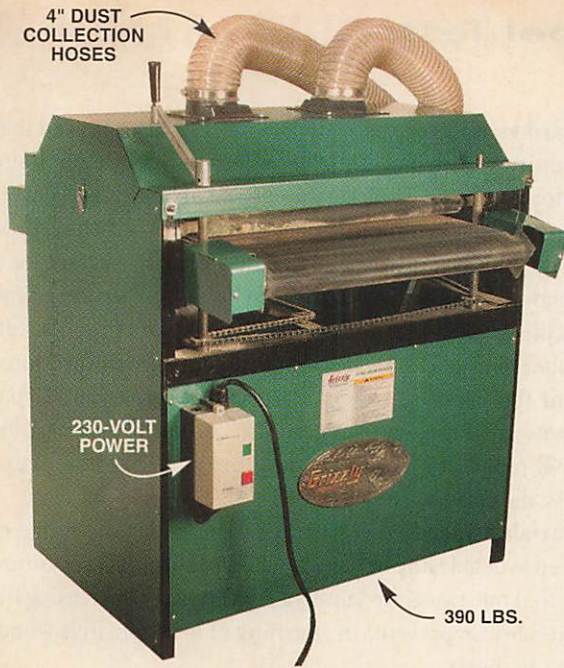
Drum sanders can save a heck of a lot of time in finish sanding, but most of the time you have to finish up sanding by hand. All drum sanders leave a visible straight-line pattern of scratches. These scratches may not be objectionable on coarse-grained wood, such as red oak, but they stand out like a sore thumb on fine-grained wood, such as hard maple.

Extra capacity and no tear-out are BIG benefits of all drum sanders.

Shop Requirements

Is your shop ready for a drum sander? There are a couple of things to consider that may cost you some extra bucks (Photo 5). First, drum sanders are one of the few machines that absolutely, positively must have adequate dust collection, or they just won't work. A portable 1-hp two-bag dust collector (\$250 to \$350) hooked directly to the machine is a minimum.

You may have to upgrade the electrical service in your shop. You'll need at least 20-amp service to your drum sander, maybe more (see Chart, page 50). Your dust collector



5 Is your shop ready to handle a drum sander? You'll need a 1-hp or larger dust collector, a 20-amp or larger circuit and possibly 230-volt service. The larger models also take up quite a bit of floor space and can be very heavy to move.

should go on a circuit other than the one used for the sander. Many drum sanders require 230-volt service for their huge motors.

Finally, take into account the size and weight of these machines before purchasing one. All drum sanders can be put on mobile bases, but when you add infeed and outfeed tables they take up lots of room; far more than a portable planer. Some machines are very, very heavy. Getting one up or down stairs is a real challenge.

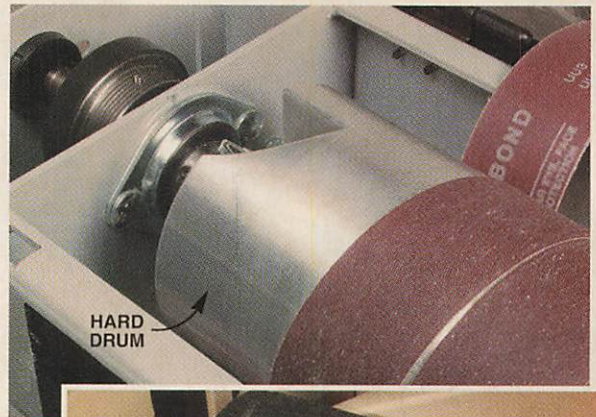
Performance Features

We've divided the features of drum sanders into two broad categories: performance and convenience. Performance features affect the results you get; convenience features affect how user-friendly the machine is. You'll find a report card on how each machine fared in the chart on pages 50 and 51.

Drum sanders come in three styles, but the style should not affect the performance. We found that *all* the machines could produce a surface free of ripples and with barely detectable sanding marks, if operated with care.

In fact, proper operation is more important than any single feature. To get the best results, you've got to choose the right grit of sandpaper, set the right depth of cut and dial the conveyor belt to the right speed. Brother, did we make a lot of mistakes at first! We'd expect anybody using a drum sander for the first time to have trouble too, regardless of the model. Skill comes with experience.

All drum sanders require a 1-hp or larger dust collector and a 20-amp circuit.



6 Sanding drums may have either a hard or soft surface. Hard drums make a precise, flat surface on your wood. Soft drums produce a surface with fewer visible sanding scratches, but they round over edges. That's potentially a problem if you're sanding a surface for gluing, such as a stacked lamination or the edges of a face frame.

We expected every machine to produce a board or panel with crisp (not rounded) edges and no snipe. In search of the perfect board, our tests showed that the following features affected the performance of each machine.

- **Adjustable pressure rollers.** All drum sanders produce snipe under certain conditions. The key to reducing snipe is to fine-tune two pressure-roller settings: height relative to the drum and foot-pounds of pressure. (Height is more important than pressure.) Unfortunately, not all machines have these adjustments.

- **Hard drums vs. soft drums.** Hard drums (Photo 6) excel at producing boards of a precise, uniform thickness. Soft drums produce a surface with slightly less detectable sanding scratches.

Our tests showed that hard drums generally made flatter edges on face-frame stock than soft drums. Does it matter for other applications? Probably not if you're sanding a door or a top. But it does matter if you're sanding surfaces that will be glued together, such as the laminations in a turned bowl.

Tool Test: DRUM SANDERS

SOFT-
RUBBER
BELT

HARD, ABRASIVE
COVERED BELT

7 Conveyor belts come with hard or soft surfaces. Hard, abrasive-covered conveyor belts require less hold-down pressure. That improves a machine's ability to sand the cup off a glued-up panel or thin stock. Soft-rubber belts can't scratch a delicate surface and are easier to track.

• **Hard vs. soft conveyor belts.** Our tests also showed that machines with hard, abrasive-coated conveyor belts performed better at taking the cup out of boards and panels than machines with soft, rubber-coated or PVC belts (Photo 7), especially on thin stock. The non-slip surface of a conveyor belt keeps a board from being thrown out of the machine by a sanding drum. All the belts work fine, but soft, rubber belts and PVC belts require more downward force from the pressure roller than hard, abrasive belts. That downward force can squeeze the cup out of a board or panel *before* it hits the sanding drum. When the board exits, the cup returns.

• **Variable-speed conveyor belt.** The wider the range of speed available, the better. Variable speed lets you optimize the feed rate to a given depth of cut (Photo 8). Increasing the feed rate also prevents the burning of heat-sensitive wood, such as cherry.

Convenience Features

Some woodworking machines are a dream to run; others are a nightmare. The results may be the same, but which do you look forward to using? The following features make a drum



6-SPEED EASY ARC™ TILT TABLE 12" Heavy Duty Drill Press For Wood and Metal

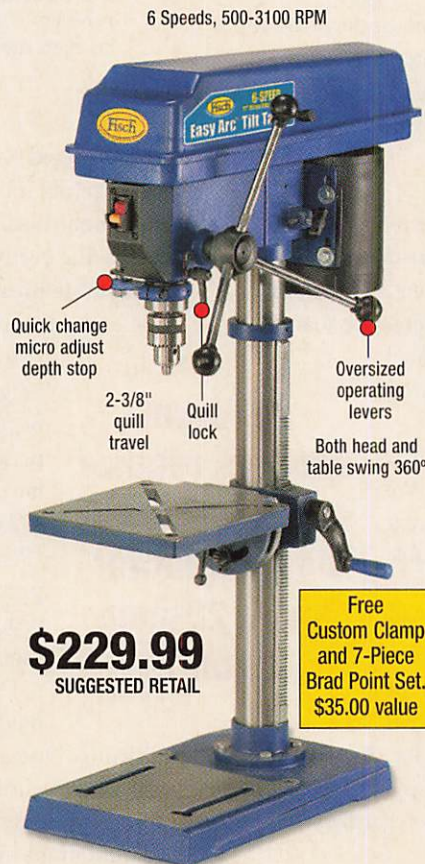
- 6 Speeds, 500-3100 RPM • 1/3 HP motor
- Oversized operating levers
- 2-3/8" quill travel • 1/2" JT33 chuck
- Quick change micro adjust depth stop
- Quill lock • Both head and table swing 360°

EASY ARC™ TILT TABLE

provides 225° of adjustability

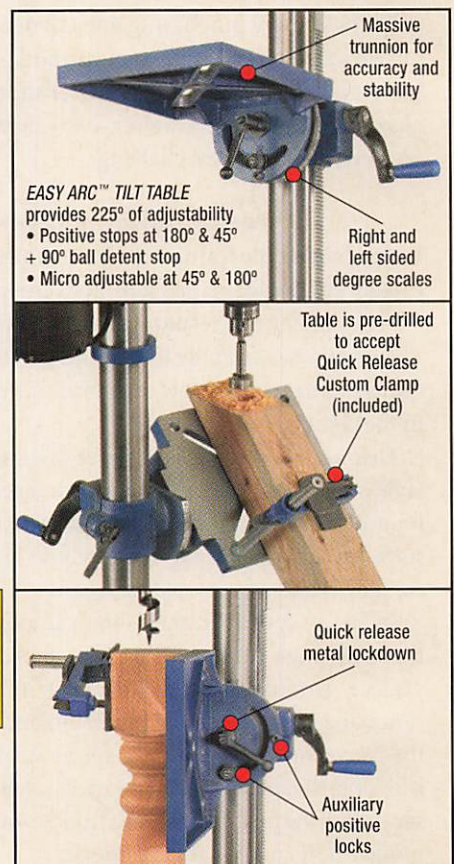
- Positive stops at 180° & 45° + 90° ball detent stop
- Micro adjustable at 45° and 180°
- Massive trunnion for accuracy and stability
- Quick release metal lockdown
- Auxiliary positive locks
- Right and left sided degree scales
- Table is pre-drilled to accept Quick Release Custom Clamp (included)

Call 724-663-9072 or visit our website at www.fisch-woodworking.com for a catalog or nearest dealer



\$229.99
SUGGESTED RETAIL

Free
Custom Clamp
and 7-Piece
Brad Point Set.
\$35.00 value



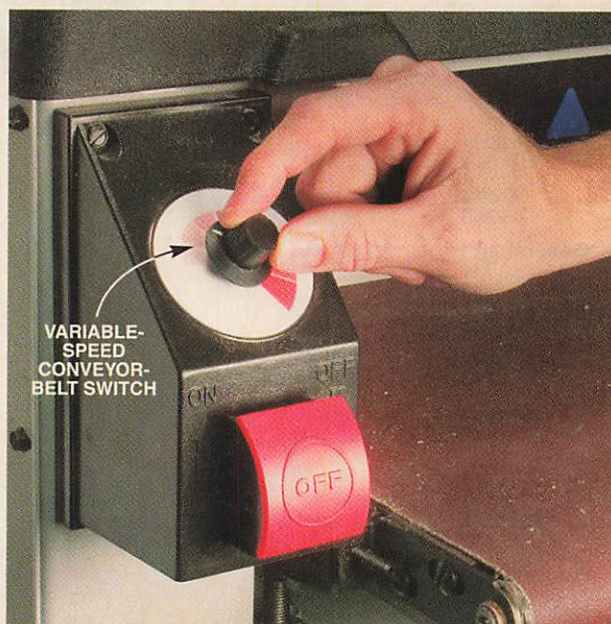
sander user-friendly. See the chart on page 51 for our ratings.

- **Speed and power.** In commercial shops, speed is essential to making a profit and may legitimately be the single most important factor in choosing a drum sander. For home shops, speed is a convenience, but not a necessity. Larger motors generally mean you can get the job done faster (Fig. B, page 44). You can take a deeper cut with coarse and medium grits and set the conveyor belt to a faster speed.

- **Sandpaper attachment.** Each drum sander has a slightly different method of attaching the sandpaper to the drum. Once we got the hang of it, most were quite easy to use (Photo 9). Some required more dexterity than others, however.

- **Good manual.** Usually we don't make a big deal about owner's manuals because there are many other good sources of information. Not so with drum sanders. When things go wrong with your setup or technique (and they will!), you'll want to turn to a good troubleshooting guide.

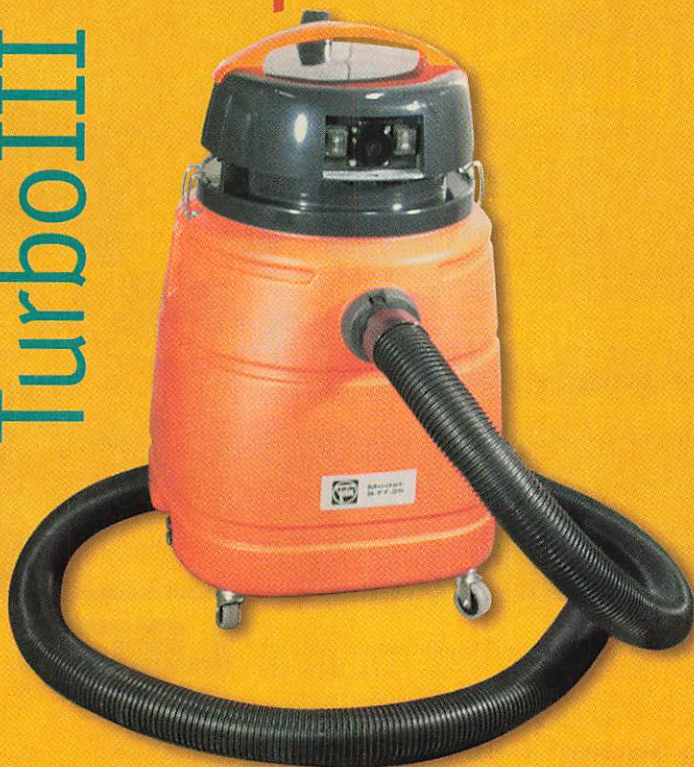
- **Depth-of-cut adjustment.** Very small adjustments to the depth of cut of a drum sander can make a big difference in results. Typically, you advance a crank handle only one-quarter or one-eighth of a turn. That level of precision calls for a crank that's easy to turn and large in diameter.



8 A variable-speed dial for the conveyor belt lets you fine-tune the performance of your machine. Smaller drum sanders have a slower maximum rate of speed than larger machines, so you can't push work through as fast.

More power. More capacity

Turbo III



Introducing the NEW FEIN Turbo III Portable Vac. The new 9-77-25 makes dust-free sanding and wet/dry cleanup easy and practical. The perfect size for big jobs, the Turbo III features 14.5 gallon capacity, an automatic on-off switch and a three-second hose-cleaning delay. The powerful two-stage motor offers bypass cooling to prevent electrical damage and prolong the life of the motor. And with 10% more suction power than the Turbo II, it can run two 6" or one 8" Random Orbit Sander.

For more information and the name of a local dealer, visit us at www.feinus.com or call 1-800 441-9878.

Finishing is just the beginning.



Fein

Fein Power Tools, Inc.
1030 Alcon Street
Pittsburgh, PA 15220

Tool Test: DRUM SANDERS

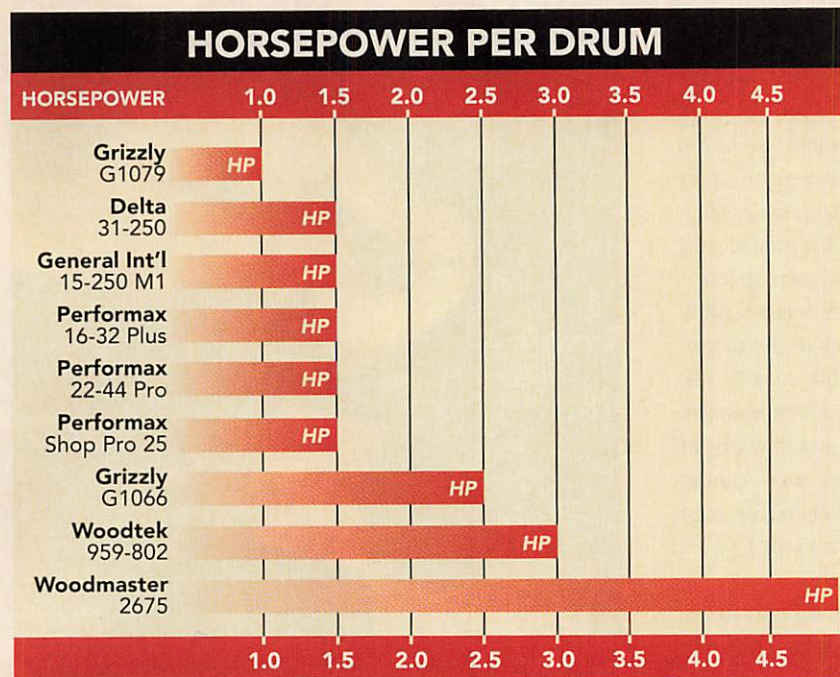


Fig. B There's a wide range of power in drum sanders. More power generally means less sanding time. You can run boards at a faster feed rate and be more aggressive in the amount of stock you remove using coarse and medium grits.

• **Independent switches.** We preferred machines with independent switches for the conveyor belt and drum. This feature helps you judge a critical setting: the depth of cut on the first pass. That's best done with the conveyor belt on and the drum off, but there are other ways. (Scales aren't precise enough on any machine to simply dial in a setting for the first pass.)

• **Drum-angle adjustment.** Don't count on your drum sander being perfectly set up out of the box. You'll have to adjust the tilt of the drum so it's perfectly parallel to the bed. That's easy on some models and not so easy on others. You may use this feature often on open-end machines (Photo 10). When you sand stock that's wider than the drum, you should tilt the drum a few thousandths of an inch higher on the outboard end to avoid lap marks. Tilt the drum back parallel when you're done.

THE WORLD'S BEST ROUTER JOINERY JIGS BY LEIGH

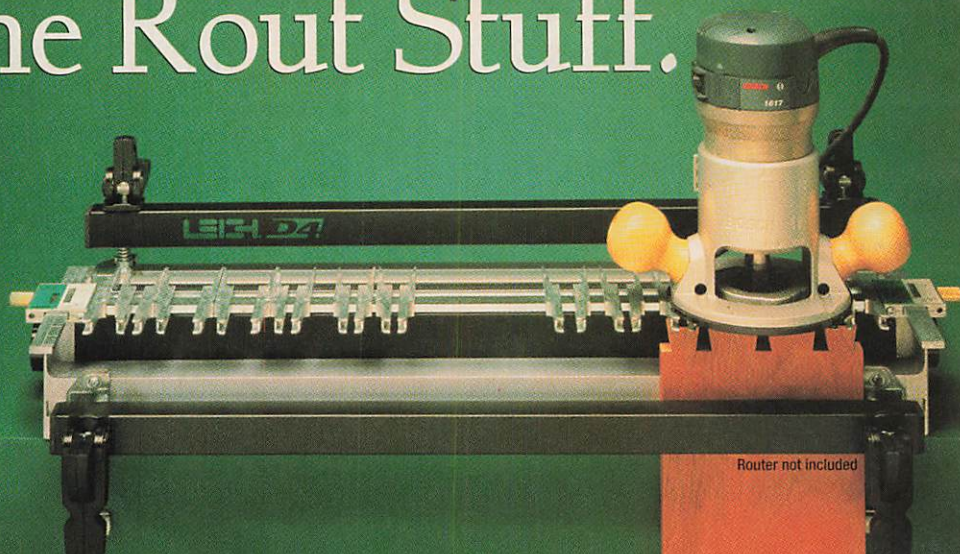
The Rout Stuff.

D4 Dovetail Features:

- Infinite spacing of pins and tails
- Through dovetails up to 1 1/4" thick
- Half-blind dovetails up to 1 1/2" thick
- Sliding dovetails up to 1 1/2" thick
- All three can be cut in boards up to 24" wide
- Imperial or metric measurement scales

Comes standard with:

- Two cutters for 1/2" to 3/4" through dovetails
- 168-page fully illustrated User Guide
- D4 Dovetail Jig Instructional Video
- Cam-Action Speed-Clamps
- Adjustable side stop for angled dovetails



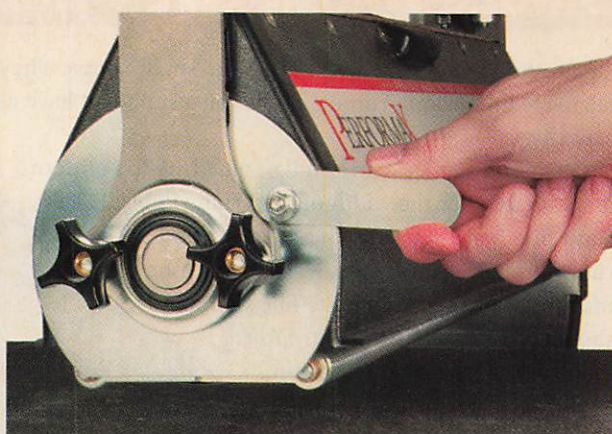
Leigh Joinery Jigs have it all. Hobbyist or professional, the Leigh D4 Dovetail Jig will ensure you create your best work. Versatility, precision and superb value make the Leigh Dovetail Jig better than the rest. Rout through and half-blind dovetails, with variable spacing of pins and tails, on one jig. Create decorative Isloc joints, finger joints, and multiple mortise & tenons effortlessly with Leigh attachments and our exceptional user guides! Get the right stuff for the job. Call toll free now!

Call For Your FREE Leigh Catalog Today! 1-800-663-8932

LEIGH
Joining Tradition With Today

Leigh Industries Ltd., PO Box 357
Port Coquitlam, BC Canada V3C 4K6
Toll free 1-800-663-8932 Tel. 604 464-2700
Fax 604 464-7404 Web www.leighjigs.com

Tool Test: DRUM SANDERS



9 Changing paper on a drum sander can be a real chore. We preferred designs that make the job easy, such as this Performax tool (it holds the spring-clamp open) and the hook-and-loop system on the Woodmaster.

10 Drum sanders can be finicky to set up. We like machines with multiple points of adjustment that are easy to get at, such as this Performax drum-angle adjustment handle.

• **Double-drum height adjustment.** The rear drum of a double-drum machine should be easy to adjust. The difference in height between the front and rear drums has to be set just so for optimal performance. Coarse grits require a larger height difference than fine grits. We'd prefer a scale to let you know where you're at in making this adjustment, but

none of the machines we tested had one.

• **Extension tables.** Infeed and outfeed extension tables help you avoid snipe on long, heavy stock. Roller stands are impractical for most machines because the bed, not the drum, is adjusted up and down. Some machines don't offer extension tables at all.

American Woodworker APRIL 2002

45



Quality is more affordable than you think!
BRIDGEWOOD®

TSC-10C Table Saw—
with features such as a large working surface, powerful American made motor and sturdy construction you'll see we didn't spare quality to make an economical table saw

- Miter gauge with T-slot groove • Cast iron extension wings
- Magnetic switch • Quick release plug connection on motor
- 4" dust collection hook up • Large 27" x 40" table
- Beveled front table edge for smooth miter gauge operation
- 1 1/2 HP American made motor
- Comes with VEGA® U-26 fence (shown)

BW-6R Jointer

Acclaimed a "best buy" among 6" jointers by a professional woodworking publication

- 3-knife cutterhead • Jackscrew knife adjustment
- New fence tilts both ways, quick and easy adjustment, 3 positive stops • Enclosed stand • 1 HP motor
- Rabbeting table and ledge • Surface ground tables
- Pushbutton switch
- Cast iron wheels



BW-15BS Bandsaw—
don't let its low price fool you, this amazing bandsaw is designed and built to provide trouble free operation cut after cut.

- Heavily ribbed, cast iron c-frame
- Cast aluminum wheels with rubber tires • Non-rocking steel floor stand
- Miter gauge • Motor mounted directly to cast iron frame for smooth operation
- 3/4 HP motor
- Two blade speeds: 2000 or 2600 SFM



BW-15P Planer—
economically priced yet built like big professional planers, it offers absolutely vibration free finishes

- 3 HP motor • 3 v-belt drive from motor to cutterhead • Table moves up and down—cutterhead stationary for smoother cuts
- Sturdy 4 leg non-rocking stand
- Extended stock support rollers
- Anti-kickback fingers across entire width
- 3 spring chip breaker • Heavy cast iron construction • Magnetic switch
- Jackscrew knife adjustment



BW-002A Dust Collector—*portable, compact unit can solve your dust collection problems at a very low cost*

- Two HP, single phase motor • 1059 CFM • 43.5 gal. collection bag
- Bag attached with quick release metal straps • Metal impeller (not plastic)
- One 5" or two 4" dia. hose inlets • 1 micron filter bag

QUALITY MACHINERY • PARTS • SERVICE • GREAT LEASE PLANS

WILKE
MACHINERY COMPANY
MACHINERY POWER TOOLS

For information and a **FREE** catalog

contact us by toll free phone:

1-800-235-2100

visit our web page:

www.wilkemach.com

write or visit our showroom:

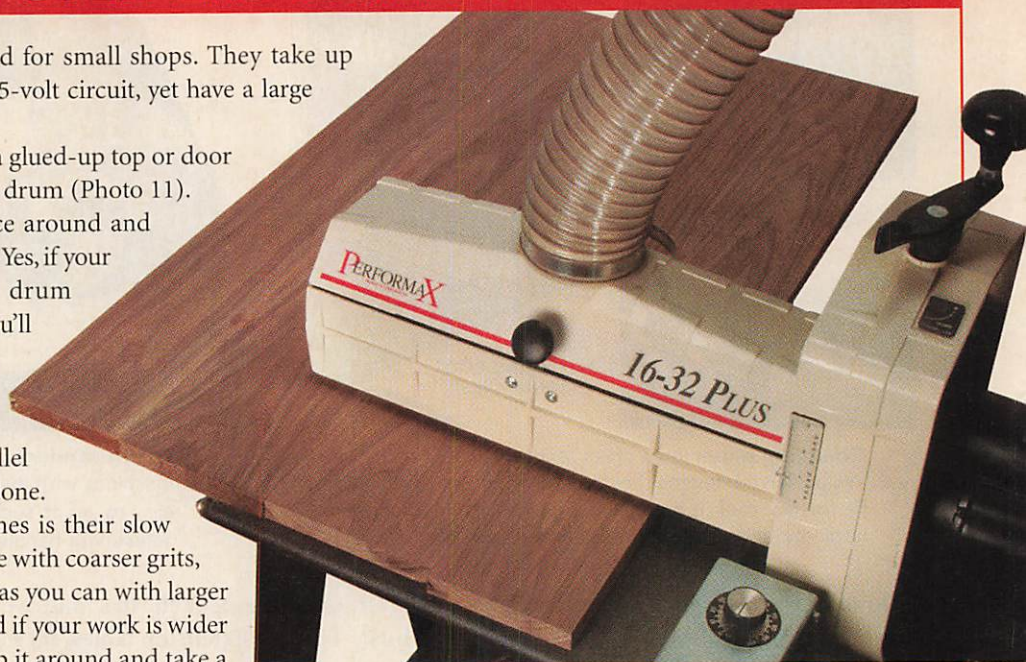
3230 N Susquehanna Trail, York, PA 17402-9716

SINGLE-DRUM, OPEN-END SANDERS

Open-end sanders are well suited for small shops. They take up relatively little room, run on a 115-volt circuit, yet have a large capacity.

Open-end sanders can handle a glued-up top or door that's up to twice the width of the drum (Photo 11). Sand one half first, turn the piece around and run it through again. Does it work? Yes, if your machine is tuned up right. The drum should be tilted ever so slightly. You'll make a very slight crown in the center, but you won't get any overlap marks. You can readjust the drum to sand perfectly parallel with the table again when you're done.

The downside to these machines is their slow speed. You can't take a very big bite with coarser grits, nor can you feed the work as fast as you can with larger machines with bigger motors. And if your work is wider than the drum, you do have to flip it around and take a second pass.



11 Open-end sanders can handle stock that's up to twice the width of the drum.



PHOTO COURTESY OF MANUFACTURER

Delta 31-250; \$810

Delta has packed extra features into its open-end sander. It has an additional 2 in. of drum length over the Performax 16-32 Plus, can run at two different drum speeds and is the only machine that accepts an inflatable outboard drum as an accessory. This accessory is perfect for freehand sanding of curved parts.

The extras are attractive, but the Delta didn't score top marks on the basics. The rollers aren't adjustable, the table is awkward to level and attaching the sandpaper requires good dexterity and finger strength. Its motor seemed a bit weaker than the motor on the Performax 16-32 Plus and it draws fewer amps.



PHOTO COURTESY OF MANUFACTURER

Performax 16-32 Plus; \$800

This machine has less capacity than the Delta 31-250, but it scored higher on our performance and convenience tests. It can do everything a drum sander should be able to do except turn out a high volume of work in a short time.

Unlike all the other drum sanders, this machine has a fixed bed and a drum that moves up and down. That means you can use roller stands for additional support of large stock. We took that idea one step farther and mounted this sander in our Ultimate Tool Stand (AW #82, page 48). Now it can handle big, wide and heavy stock almost as well as the larger machines.



PHOTO COURTESY OF MANUFACTURER

Performax 22-44 Pro; \$1,950

Extra capacity in an open-end machine comes at a pretty stiff price, but this beefed-up machine will handle a wider top than any other we tested. The adjustment for tilting the drum worked quite well.

In addition to extra capacity, the strength of this classic machine is its versatility. It scored well in all of our tests except one category—speed and power. We wish a version with a bigger motor was available.

The casters (\$70) and extension tables (\$100) shown above are optional accessories. This machine is also available in kit form for about \$1,350.

SINGLE-DRUM, CLOSED-END SANDERS

Both ends of the drum are supported in these sanders. This allows the drum to be longer than the open-end machines. You can sand a panel up to 25-in. wide in one pass (Photo 12). That's wide enough for most cabinet doors and sides, but not wide enough for large tabletops. For these, you have to sand one half at a time and glue the two halves together.

These machines require less adjustment than open-end sanders. Once you've set the drum parallel

to the bed, you're done.

This category is where the power wars really start. The machines we tested are the two least expensive machines in a large field where horsepower, capacity and price go up and up (to over \$4,000).

12 Closed-end sanders can handle stock up to 25-in. wide in one pass.

Performax Shop Pro 25; \$2,200

Although limited in power, the Shop Pro 25 can handle all the jobs we asked of a drum sander. It's ideally suited for a small, non-production shop where each project may require a new task. This sander will surface oversize rough lumber, even up cabinet sides and precisely sand resawn, thin stock. All that and it only requires a 115-volt circuit.

The advantages of this sander over its close cousin, the open-end Performax 22-44, are extra width for sanding in a single pass and fewer adjustments to worry about. Unlike an open-end machine, the drum is always set parallel to the bed. Once you've tuned up your machine, you're always good to go.

The casters (\$70) and extension tables (\$100) shown below are optional accessories.

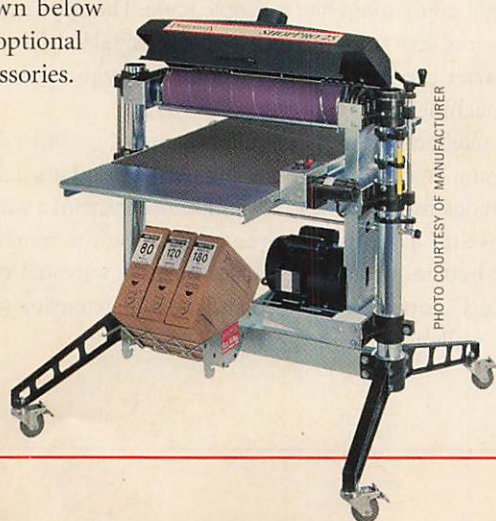


PHOTO COURTESY OF MANUFACTURER

Woodmaster 2675; \$2,000

This machine is built like a Sherman tank. It's been in production for many years with the same basic, proven design. You want power? This is your sander. You can hog off wood in the coarse and medium grits with ease, even at full width. And you can run the conveyor belt at a higher speed than most other machines. This robust machine handles big and heavy stock better than any other we tested.

Changing paper is easy with Woodmaster's hook-and-loop system. There are no slots or springs to mess with, but you do have to wrap strapping tape around one end of the drum.

The hook-and-loop system has its drawbacks, however. We had to stop the sander and re-wrap the paper after a few passes to take up any slack. The paper is a bit more expensive and its backing cushions the drum, making it softer. Edges can get rounded, which isn't good for surfaces that will be glued together.

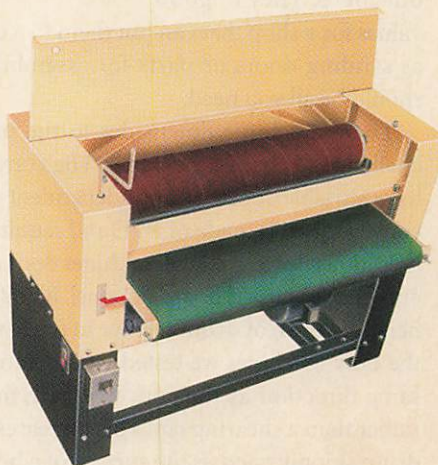


PHOTO COURTESY OF MANUFACTURER

DOUBLE-DRUM SANDERS



13 Double-drum sanders save sanding and set-up time by using two different grits in one pass.

Grizzly G1079; \$750 & Grizzly G1066; \$1,100

These are very similar machines. They differ only in capacity and power, and you get a lot of power for the money with the G1066. If the idea of a double-drum machine appeals to you, these are the least expensive models out there. They're good values for a shop that can put them to a dedicated use, such as sanding doors or parts for assembly. One set of grits should be all you need.

There are some downsides to the pair, however. It's a challenge to change the paper. The conveyor belt does not have variable speed or an independent on/off switch. The conveyor belt is made of PVC and requires a fair amount of hold-down force, so these machines don't do well at removing cup from a warped board or panel. It's difficult to change the height of the rear drum relative to the front drum. These are the only machines we tested with drums that rotate in the same direction as the conveyor belt, making a climb cut rather than a shearing cut. This increases the chances of the drum skipping across the surface of a board if you take too deep a cut.



General International I5-250 MI; \$1,700

This is a serious new entry into the field of drum sanders. It's more expensive than the Grizzlys and comes with better features (changing paper is much easier, for example), but it's still priced well below other double-drum sanders.

The conveyor belt is variable speed, but doesn't have an independent on/off switch. You can adjust the height of the rear drum, but we wish the height adjustment had a simple scale. The depth-of-cut crank works very smoothly and is generously sized. However, one quarter turn raises the bed significantly more than on other machines.

The height of the pressure rollers cannot be adjusted, but the amount of force they deliver can be. At least that's half the battle in dealing with snipe. Eliminating cup from a warped board is still a problem, however, because the machine's rubber belt requires a fair amount of downward roller pressure. Unfortunately, infeed and outfeed extension tables are not available.



WOODLINE ARIZONA, INC. OFFERS YOU MORE... SUPER SETS AT GREAT PRICES!!!

30-pc PROFESSIONAL SET



Includes:
5 Straight bits
3 Dovetails
3 Core Box
3 Cove Bits
6 Roundovers
2 Flush Trim
1 Panel Bit
2 Roman Ogee
2 Slot Cutters
1 "V" Groove
1 Chamfer
1 Bevel Trim Bit

WL-2010 OUR PRICE ONLY \$109.set

15-pc 1/2" SHANK SET



Includes—
• Chamfer
• Cove—
1/2"R, 3/8"R, 1/4"R
• Roundover—
1/2"R, 3/8"R, 1/4"R
• Roman Ogee=1/4"R
• Straight Bits—
3/4"R, 1/2"R, 1/4"R
• 1/2" Dovetail
• 1/2" Roundover
• 1"CL Flush Trim
• Rabbet Bit

WL-2022 OUR PRICE ONLY \$59.set

15-pc 1/4" SHANK SET

same as WL-2022 except 1/4" shank

WL-2021 OUR PRICE ONLY \$59.set

5-pc ROUNDNOSE (CORE BOX) SET



WL-2012 \$80.VALUE
OUR PRICE ONLY \$59.set

All Woodline Arizona Sets are
packaged in a beautiful wood
box (a \$10. value)

5-pc DOVETAIL SET

14° 3/4" • 14° 5/8" • 8° 1/2"
14° 1/2" • 14° 3/8"



WL-2017 \$30.VALUE
OUR PRICE ONLY \$19.set

6-pc CABINET DOOR SET



• 2-pc Rail & Stile (Roman Ogee) • Drawer Lock
• 2 3/4" D Panel Raiser (Ogee) • Door Lip • Glue Joint
WL-2020 \$175.VALUE
OUR PRICE ONLY \$119.set

5-pc CABINET DOOR SET



WL-1505 \$279.VALUE
OUR PRICE ONLY \$179.set

13-pc DOVETAILSET



WL-2013 \$115.VALUE

OUR PRICE ONLY \$59.set

6-PIECE BULLNOSE SET



WL-2013 \$115.VALUE

OUR PRICE ONLY \$89.set

5-pc MOULDING SET



WL-2011 \$175.VALUE
OUR PRICE ONLY \$99.set

8-pc CLASSICAL SET



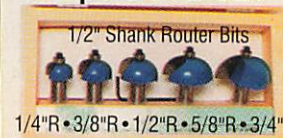
• 2 Classical=5/32" R, & 1/4" R
• 1 Wavy • 1 Filet
• 2 Ogee=5/32" R, & 1/4" R
• 2 Roman Ogee=5/32" R, & 1/4" R
WL-2016 \$150.VALUE
OUR PRICE ONLY \$99.set

3-pc CABINET DOOR SET



• 2-pc. Roman Ogee Rail & Stile
• 2 3/4" Ogee Panel Raiser
WL-2019 \$100.VALUE
OUR PRICE ONLY \$65.set

5-pc COVE SET



WL-2015 \$89.VALUE
OUR PRICE ONLY \$59.set

5-pc CARBIDE TIPPED FORSTNER BIT SET



WL-2018 \$89.VALUE
OUR PRICE ONLY \$39.set



Get your FREE
catalog and see our
great selection of Bits
and Cutters
1-800-472-6950



WOODLINE ARIZONA, Inc

P.O. Box 1530 • Payson, AZ 85547
Great Router Bits & Shaper Cutters!
Best Selection...Best Price

- All Major Credit Cards
- Shipping \$3.75. /\$100+ \$4.75
- Most items in stock
- Same-day shipping!!

Order Toll Free

1-800-472-6950

WOODLINE's Quality Bits & Cutters feature:

- Tough Micro-Grain Carbide
- Euro Anti-Kickback Design
- Super-slick Non-stick finish
- Super Low Prices

Check our website for
new products:
www.woodbits.com
E-mail:
cutters@netzone.com

Tool Test: DRUM SANDERS

Recommendations

A drum sander can be a real time-saver. It's capable of doing far more than just smoothing glued-up panels, but it's not a replacement for a planer and jointer. You can get along fine without a drum sander, but buying one will surprisingly expand the range of woodworking you can do in your shop.

Whether it's an open-end, closed-end or double-drum machine, no single type of drum sander is the best. Each design can fit very well in different kinds of shops.

Two yardsticks can help you sort out the field: performance and convenience. We've graded each machine by these measures in the chart below. Unfortunately, it's clear that no single machine scores high in all categories. Before you buy a drum sander, the question to ask yourself is whether you'd rather have a machine that performs many jobs very well, but slowly, or a machine that performs fewer jobs very fast.



Performax 16-32 Plus; \$800

This compact machine is easy to use and performs a wide variety of jobs well.



Performax 22-44; \$2,200

This open-end sander has a wider range of capacity than any other we tested.



Woodmaster 2675; \$2,000

You get amazing power and speed with this closed-end sander, a perennial favorite.



General International 15-250M1; \$1,700

This new double-drum machine gets the job done quickly without much fuss.

				SHOP REQUIREMENTS			CAPACITY			SPECS				
	Brand	Model	Street price ✓	Volts	Circuit amps	Lbs.	Max. width*	Max. thickness	Min. length 3/4" bd.	Hp. of main motor	Main motor amps	Hard or soft drums	Conveyor belt type	Conveyor belt speed Δ
OPEN END	Delta	31-250	\$810	115	20	190	36", 18"	4"	7"	1-1/2	13	hard	hard	0 - 12
	Performax	16-32 Plus	\$800	115	20	145	32", 16"	3"	2-1/4"	1-1/2	14	hard	hard	0 - 10
	Performax	22-44 Pro	\$2,000	115	20	295	44", 22"	4"	2-1/4"	1-1/2	14	hard	hard	0 - 10
	Woodtek	959-802	\$1,140	230	30	300	24", 12"	5"	8"	3	18	hard †	hard	0 - 12
CLOSED END	Performax	Shop Pro 25	\$2,200	115	20	310	25"	4"	2-1/4"	1-1/2	14	hard	hard	0 - 10
	Woodmaster	2675	\$2,000	230	30	620	25"	5-1/4"	7"	5	20	soft	soft	0 - 20
DOUBLE DRUM	General Int'l	15-250 M1	\$1,700	230	20	463	24"	5"	5"	3	15	hard	soft	3 - 20
	Grizzly	G1079	\$750	230	20	292	16"	4-1/4"	9"	2	12	hard Ω	hard ♦	11
	Grizzly	G1066	\$1,100	230	30	389	23-1/2"	4-1/4"	9"	5	25	hard Ω	hard ♦	11

✓ excludes shipping
† Hard rubber

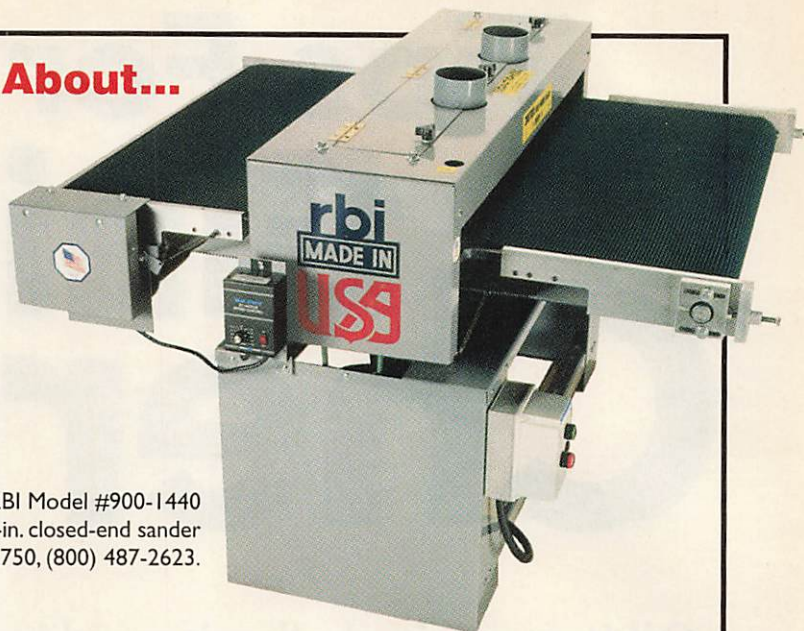
* open-end machines: widest panel that may be sanded in two passes, width of drum
Ω Hard front, soft rear

♦ Hard PVC

Δ Feet per minute

You Should Also Know About...

We reviewed sanders that were priced under \$2,200, but there are many more expensive models available. For \$2,500 to \$10,000, you can get closed-end or double-drum machines with more powerful motors and wider capacity. These machines allow you to process work faster than most of the sanders we tested, but the results may not be much different. By and large, these sanders require 30-amp service and a 230-volt circuit.



RBI Model #900-1440
38-in. closed-end sander
\$3,750, (800) 487-2623.



Woodtek 959-802
12-24-in. open-end,
wide-belt sander
\$1,140.

Two new double-drum sanders were not available for our test, the Grizzly 24-in. #G1066Z, \$1,600 and the Woodtek 25-in. 109-352, \$1,200.

If you're looking for both faster and better results from a sander, a wide-belt machine may be the right fit for you. With the single exception of the Woodtek open-end sander included in our chart, they start at about \$3,100. Wide-belt sanders use a single sleeve of sandpaper rather than a continuous roll. That makes paper changing a bit faster, as shown at left. Wide-belt sanders also require at least 30-amp service and a 230-volt circuit.

Many wide-belt sanders leave a less-visible scratch pattern than any drum sander. Their heads oscillate back and forth, so you don't get rows of straight-line scratches. The belt is pressed to the wood by a large, flat platen rather than by a round drum, so you won't get random dips. (The Woodtek model doesn't have either feature, however.) **AW**

	PERFORMANCE					CONVENIENCE									CONTACT
	Over-all grade	Anti-snipe adjust.	Re-move cup	Maintain square edges	Large heavy stock	Over-all grade	Speed and power	Paper attachment	Manual	Depth-of-cut adjust	Independent switches	Drum angle adjust	Rear drum adjust	Ext. tables avail.	
	B	C	B	A	C	B+	B-	B	A	B+	Yes	B	NA	Yes	(800) 438-2486
	A-	A	A	A	C	A-	B-	A	A+	A-	Yes	A-	NA	Yes	(800) 274-6848
	A	A	A	A	B	A	B	A	A+	B	Yes	A+	NA	Yes	(800) 274-6848
	B	B	B	B	B	B	B	A-	B	B-	No	B+	NA	No	(800) 645-9292
	A	A	A	A	B	A	B	A	A+	B	Yes	NA	NA	Yes	(800) 274-6848
	B+	C	B	B	A	A	A+	A	B+	A	Yes	NA	NA	Yes	(800) 821-6651
	B+	B	B	A	B	A-	A-	A-	B-	A+	No	NA	B	No	(514) 326-1161
	B	B-	B	B	B	B-	B	C	B+	B	No	NA	C	No	(800) 523-4777
	B	B-	B	B	B	B	A-	C	B+	B	No	NA	C	No	(800) 523-4777

NA= Not applicable

Tips For Finishing Cherry

*Oil it, spray it, shellac it, or glaze it.
This is how to make cherry look great.*

Cherry is gorgeous wood, but as you've probably discovered, it can be nasty to finish. Cherry boards come in all different colors, the sapwood and heartwood don't match, it can look really blotchy and it darkens as it ages.

Take advantage of my 28 years of experience with cherry. Here's everything I've learned about choosing lumber, getting rich color, a uniform appearance, and making a new cherry piece look 100 years old.

Color Varies from Board to Board

To make finishing easier, choose boards that look the same. Some suppliers sell boards from the same tree together, to ensure a good match. Usually, though, you'll be on your own.

If you plan to use solid cherry along with cherry plywood, stand the solid stock against the veneer in good, natural light, so you can compare the colors. Wetting the surfaces with mineral spirits is another way to get a true indication of color.

If you can't find enough boards of the same color for your entire project,

group similar ones together for the various parts. Everyone will see that single off-colored board in the top, but no one will notice if one side of a cabinet is a slightly different color than the other.

Cherry Darkens Over Time

Cherry's color deepens from a pale pinkish-tan to a deep red-brown as a result of its exposure to air and light. The color change is so rapid at first that within hours, a partially covered board can develop a shadow line that can be hard to sand out. It's important to keep freshly planed boards either completely covered or completely exposed.

After the first couple of weeks, darkening becomes more gradual. Most finishes will slow cherry's color change, especially ones with UV blockers (check the label), but they don't stop it. At first, linseed and tung oil finishes give cherry a deeper, richer appearance than film-forming finishes like shellac, lacquer and polyurethane (pages 54 and 55). But after a year or so, they'll all look pretty much the same.

If you want to give cherry a dark color right away, don't use oil stain. It

colors cherry's pores and makes it look unnatural. Colored glazes or finishes using chemical reactions work best (pages 56 through 58).

Sapwood and Heartwood

The difference between cherry's white sapwood and rosy-tan heartwood becomes more distinct over time. The heartwood darkens, but the sapwood doesn't. The best way to deal with sapwood is to cut it off, but it *can* be finished to blend with the heartwood (see Sidebar, page 57).



ART DIRECTION: VERN JOHNSON • PHOTOGRAPHY: LEAD PHOTO: BILL ZUEHLKE, ALL OTHERS STAFF



Thirsty Spots and Curly Figure

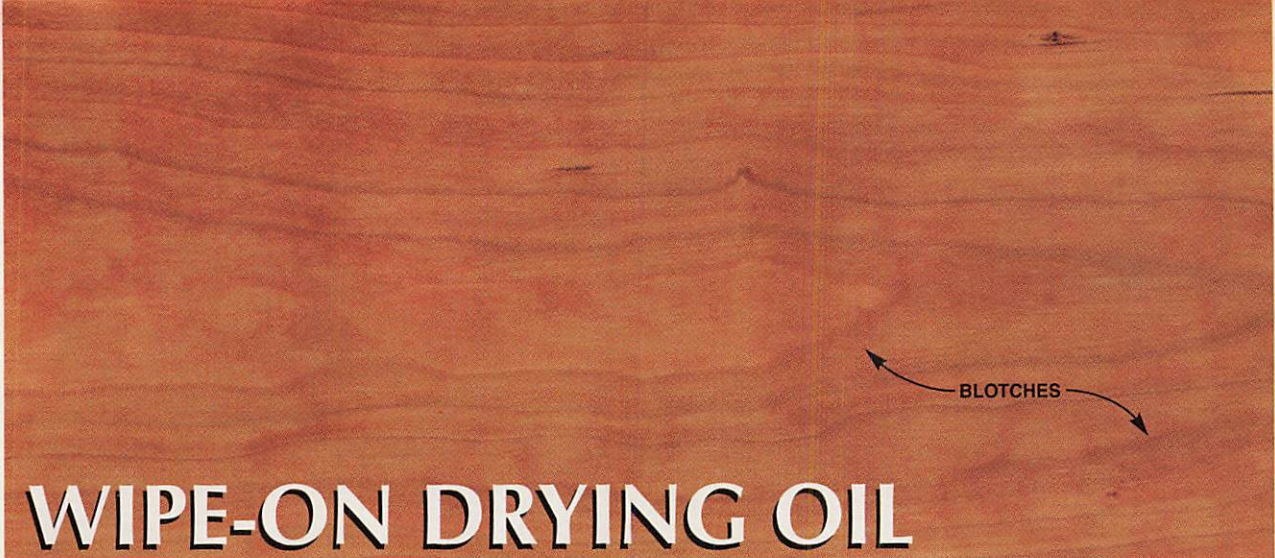
Most cherry boards contain extra-absorbent spots and pockets of curly figure that are more distracting than spectacular. With both “problems,” finishing results in a mottled appearance. To some, this is part of cherry’s inherent beauty; to others, it just looks blotchy. Before you choose a finish, check your boards for mottling by wiping them with mineral spirits.

Choosing a Finish

There are two types of finishes for sealing and protecting wood: Those that dry to a hard film and those that don’t.

Film-forming finishes can be applied by wiping, brushing or spraying. Each layer you apply builds the thickness of the film. Finishes made from drying oils soak into the wood’s pores, but don’t harden enough to form a surface film. They have to be wiped, because

you can’t leave any on the surface. On cherry, drying oil finishes emphasize a mottled appearance. Film-forming finishes, like shellac, lacquer and polyurethane, minimize it. Polyurethane disguises mottling and curly figure the best, but it gives cherry less depth than shellac or lacquer.



WIPE-ON DRYING OIL

OIL FINISH GIVES CHERRY A RICH TONE, because of its amber color; but the results are unpredictable. Cherry often absorbs oil unevenly, and parts that absorb a lot of oil look darker. The result is a mottled appearance. You'll either see this as part of cherry's appealing character or as unattractive blotches.

Tung oil and boiled linseed oil soak into the wood, lodging in even the tiniest pores. This makes cherry's super-absorbent spots and curly figure stand out. The deep-amber color of these oils amplifies the effect. If you like mottled cherry, use a drying oil finish.

Wipe-ons are the most worry-free finishes to apply. They're dust-free and you don't have to contend with drips, sags, or brush marks. Wiping can be tedious work, though, and you'll have to safely dispose of oil-soaked rags.

Brush, pour or rub the oil on the wood, according to the manufacturer's directions. These finishes are usually rather thick, but heating them makes them less syrupy and easier to apply (photo at right). Wipe all excess oil from the surface. After the first coat is completely dry, smooth the surface with very fine sandpaper or steel wool and apply a second coat. Once the wood has a uniform sheen, additional coats aren't necessary.

Most wipe-on finishes are blends of oil and varnish, so they're actually film-forming finishes. These blends also contain solvents to make them easy to apply and driers to make them dry quickly. Wear gloves, a respirator and maintain adequate ventilation.

Pure drying-oil finishes contain only tung oil or linseed oil. They have no

added driers or solvents, so they're safer to use, but they dry very slowly.

SAFETY TIP

As boiled linseed oil dries it can generate enough heat to cause a pile of oil-soaked rags to catch fire spontaneously. Spread the rags out to dry, allowing plenty of air circulation around each one (I take them outside!). It's okay to throw the stiff, dried rags in the trash.

OIL FINISH

Cost: \$14 to \$25 per qt.
Coverage: 150 sq. ft.

- PROS:** Amber color adds warmth and depth
Dust-, drip- and sag-free
Easy to renew
- CONS:** Amber color highlights mottled figure
Won't disguise color mismatches
Dries slowly
Oily rags are a fire hazard
Sapwood remains light-colored
Soaks into end grain and makes it dark



Caution: Never heat finishes on your stove.

HEAT OIL FINISH in a bath of hot tap water to make it easier to apply. Keep the oil warm by occasionally changing the water.

SPRAYED-ON FILM FINISH

FILM-FORMING FINISH KEEPS CHERRY FROM LOOKING BLOTCHY, but doesn't significantly enhance its tone. The cherry becomes richer looking on its own, as it ages under the finish. Within a year, it reaches a pretty coppery color.

Finishes that harden into a film minimize cherry's mottled appearance because they have much less color than drying oils, and they don't soak in as much. The first coat of a film-forming finish seals the wood, so successive coats lay on top of each other. Each new coat thickens the finish film.

Spraying these finishes from an aerosol can is fast and convenient. It's great for getting into corners and covering intricate shapes. Spraying also eliminates brush strokes, and no brushes or rags makes cleanup simple. But, you do have to deal with overspray and nasty fumes. At \$5 to \$8 for an 11- to 12-oz. can, it's also kind of expensive.

You can find shellac, lacquer and polyurethane in aerosol cans. I think shellac and lacquer look the best on cherry. Oil-based polyurethane dries the slowest, but it's the most durable. You can get a good-looking, durable finish by following an initial sealcoat of shellac with topcoats of polyurethane. Don't use waterborne poly. It leaves cherry looking pale and parched.

The secret with aerosol spray is to go easy (photo at right). Sanding off drips and sags from one heavy coat takes a lot more time than spraying and sanding two light coats. Wear a respirator and maintain adequate ventilation any time you spray an aerosol finish. Here are some guidelines for aerosol spraying:

1. Keep the nozzle perpendicular to the surface and spray from a consistent distance, between 8 and 10 in. away.
2. Move the can at a steady rate. Start spraying before you reach the surface and don't stop until you're past it.
3. Move your project around (you may even want to turn it upside down) to get the best spraying angle. You can spray up and down as well as side to side.
4. Spray tough-to-reach areas first and areas that are most visible last.
5. Sand between coats with 280 grit or finer paper.
6. Use a new can for the final coat. Then you won't have to worry about a nozzle that spits because it's dirty or running out of finish.

AEROSOL FILM FINISH

Cost: \$5 to \$8 per can

Coverage: 25 sq. ft.

- PROS:** Minimizes mottled figure
Seals end grain so its color matches the face grain
Fast drying (except oil-based poly)
Easy to rub out (except oil-based poly)
Polyurethane is most durable
- CONS:** Must sand between finish coats
Possible drips, runs and sags
Overspray
Requires organic-vapor respirator
Dust may stick to slow-drying polyurethane
Won't disguise color mismatches
Sapwood remains light-colored

TIP

An aerosol tip that sprays in a wide fan pattern is less likely to leave sags and runs. Just look at the nozzle. If it's round, it sprays a cone pattern; if it's rectangular, it sprays a fan. You can adjust fan-type nozzles to spray horizontally or vertically. Cans with fan-spray nozzles cost about a dollar more, but they're worth every penny.



IT'S EASY TO GET IN CORNERS with aerosols because there's no brushing or wiping. Spray and sand between each coat.

SHELLAC AND GLAZE

SHELLAC AND GLAZE ADDS RICH COLOR AND MINIMIZES BLOTCHING. Shellac seals the wood so the glaze, which is thinned oil paint, adds color evenly. You can wipe the glaze hard, or feather it, leaving more in some spots than others. Glaze is great for disguising light sapwood.

The versatile shellac and glaze process is my favorite finish for cherry. It allows you to add color wherever it's needed, in a spot, or over the entire piece. It also helps to blend mismatched cherry boards or plywood and solid cherry. It disguises light-colored sapwood and hides mottling and unwanted curly figure. You can use it to make new cherry look older, because each coat of glaze deepens the color.

The technique is simple. First, apply a thin coat of shellac (Step 1). Sand it lightly, apply the colored glaze (thinned burnt umber artists' oil color—more on this later) and wipe it off. That's it. Because the shellac has sealed the wood, the color goes on evenly, without

making the surface look muddy. Once you're satisfied with the color, topcoat with polyurethane.

If you have serious color mismatches to deal with, two-stage coloring may work best. Put a coat of golden-brown-colored dye on the unfinished cherry, before the shellac (see Sidebar, page 57). It tempers the color differences so they're easier to blend with glaze.

I like to brush shellac, but you can spray it, too. Sand each coat with 280-grit sandpaper (shellac takes about an hour to dry). Sand evenly and carefully, because glaze will accentuate any scratches and leave a dark line wherever you cut through the shellac.

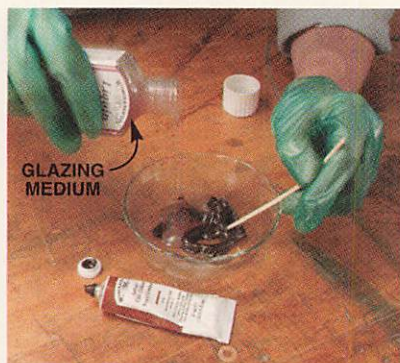
Glaze is nothing more than thinned paint. I make glazes using artists' oil

colors (Step 2). Artists' oils (see Sources, page 108) contain very finely ground pigments, so they don't look muddy, and you can match just about any wood by mixing colors. Liquid glazing medium (see Sources, page 108) makes the oil color spread evenly and dry faster.

Once you apply the glaze, you have plenty of time to work with it before it dries (Steps 3 and 4). It's also reversible (Step 5). Once the glaze is dry (overnight, in good conditions), you can deepen the color with a second coat, add additional glaze selectively to camouflage bad spots or highlight details, or finish with polyurethane. As with other finishes, cherry will continue to darken underneath the glaze, although you'll hardly notice it.



STEP 1 SEAL THE SURFACE WITH DEWAXED SHELLAC (see Sources, page 108). On cherry, a single thin coat (2 lb. cut) allows some glaze to lodge in the pores. This looks odd to me, because cherry's pores aren't naturally dark. Two thin coats, sanded between, keeps color out of the pores.



STEP 2 MAKE YOUR OWN GLAZE by mixing burnt umber artists' oil color and liquid glazing medium into a medium-bodied paste. You can get both at art supply or craft stores. Don't go overboard—a little glaze goes a long way.



STEP 3 COVER THE SEALED SURFACE WITH GLAZE. It doesn't matter how you apply it or if you miss a few spots. Wiping evens things out.

SHELLAC AND GLAZE

Cost: Shellac; \$8 per qt
Glaze (artists' oil color and liquid medium); \$15
Topcoat; \$5 to \$8 per aerosol can
Coverage: A little glaze goes a long way

PROS: Rich color
Minimizes mottled figure
Goof-proof because it's reversible
Disguises sapwood
End grain matches face grain
CONS: Additional steps take extra time
Added cost
Finish topcoats necessary



STEP 4 USE TWO RAGS FOR WIPING, one that's fairly loaded with glaze and another that's fairly clean. Between the two you can feather the glaze however you want.



Step 5 (optional) MINERAL SPIRITS REMOVES GLAZE. If your glaze doesn't look right, you can take it off (before it dries) and try again.

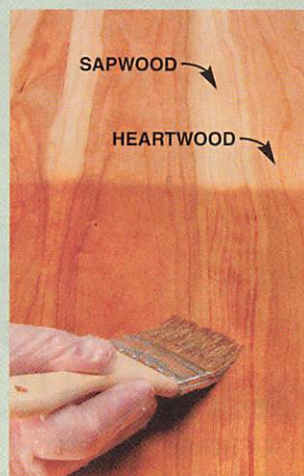
COPING WITH CHERRY'S LIGHT-COLORED SAPWOOD

My best advice, which is to cut off all of the sapwood, isn't always practical. If you can't remove all of the sapwood, hide it on the underside or turn it to the inside whenever you can.

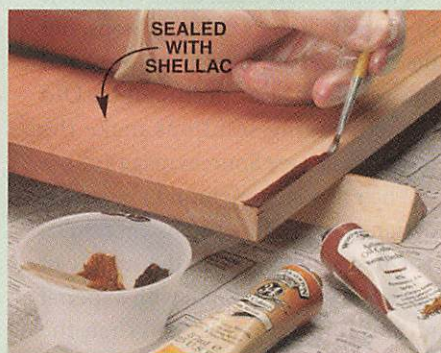
You can disguise sapwood with pigments or dye (photos at right). These cover-ups look best when they're fresh. Here's why: Pigments retain their color over time, but dyes fade (water-based dyes last the longest) and cherry's color changes.

If you color sapwood with dye, it'll gradually get lighter while the surrounding heartwood gets darker. Matching the sapwood with pigment works better. Over extended lengths of time, however, exposure to sunlight can actually bleach cherry, so sapwood colored with pigment will end up being too dark.

The best way to color sapwood is to tone it with diluted golden-brown-colored dye, seal the surface with shellac, and glaze over with burnt-umber-colored pigment.



DILUTED, GOLDEN-BROWN, WATER-BASED DYE (see Sources, page 108) makes dark-colored heartwood and light-colored sapwood appear more uniform. It also helps to blend unmatched boards.



STEP 1 COLOR SAPWOOD WITH OIL PAINT. First, seal the surface of the board with shellac. You may have to mix colors, to get a good match with the heartwood. Thinning isn't necessary. Brush the paint only on the sapwood.



STEP 2 WIPE THE PAINT CAREFULLY, so you tone the sapwood without adding color to the heartwood. If you mess up, remove the paint with mineral spirits and try again.

CHEMICAL REACTION

AGE CHERRY INSTANTLY by chemical reaction. It takes decades for cherry to reach the deep red-brown color prized by antique lovers. But by treating new cherry with Old Growth's aging solutions today, you could fool most experts tomorrow. The process is simple and the results are eye-popping.

If you're familiar with antique furniture, you know that aged cherry looks completely different from new cherry. It's very dark.

Finishers have been using chemicals to deepen cherry's color for eons, but the chemicals are dangerous to use and the results are unpredictable. Old Growth's aging solutions make the process safe (see Sources, page 108).

Their two-step application process is designed to produce consistent results. The first solution leaves the surface of the wood evenly covered with a special mix of ionized minerals. When the second solution is applied, a chemical reaction occurs that turns the cherry,

including its light-colored sapwood, a much darker color.

As with any finishing technique, however, it's best to test this process on scraps before using it on your expensive cherry. The results are permanent!

You can decrease the intensity of the color change by diluting the activator solution with distilled water (Step 1). Don't dilute the catalyst solution—it has to go on full-strength (Step 2).

The surface doesn't need to be rinsed and the process doesn't raise the grain significantly. After the wood is dry, sand it lightly and apply clear topcoats. The color goes pretty deep, so stick with a film-forming finish that doesn't soak in

DARKENING BY CHEMICAL REACTION

Cost: \$22 for two 1-pt. bottles
\$1 for one gal. of distilled water
Coverage: 60 sq. ft.

PROS: Looks just like old cherry
Easy and safe
Makes sapwood the same color as heartwood

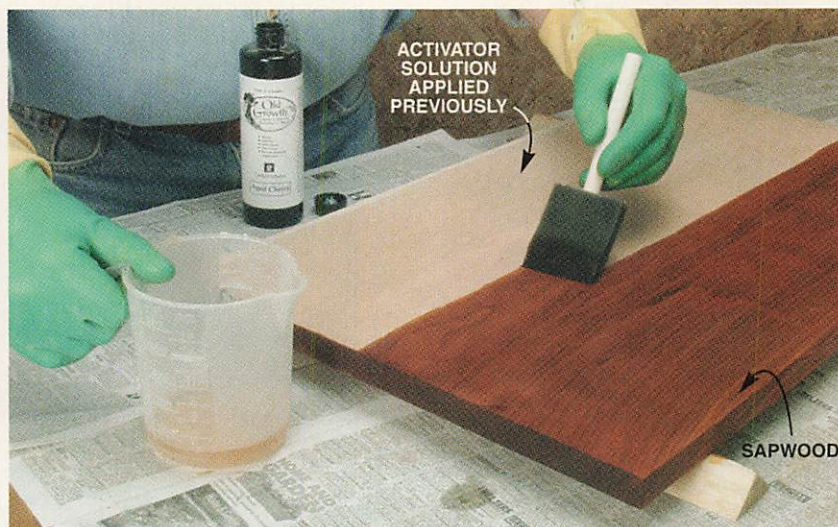
CONS: Highlights mottled figure
Extra steps
Finish topcoats necessary

or add much color of its own, such as shellac, lacquer or poly. **AW**

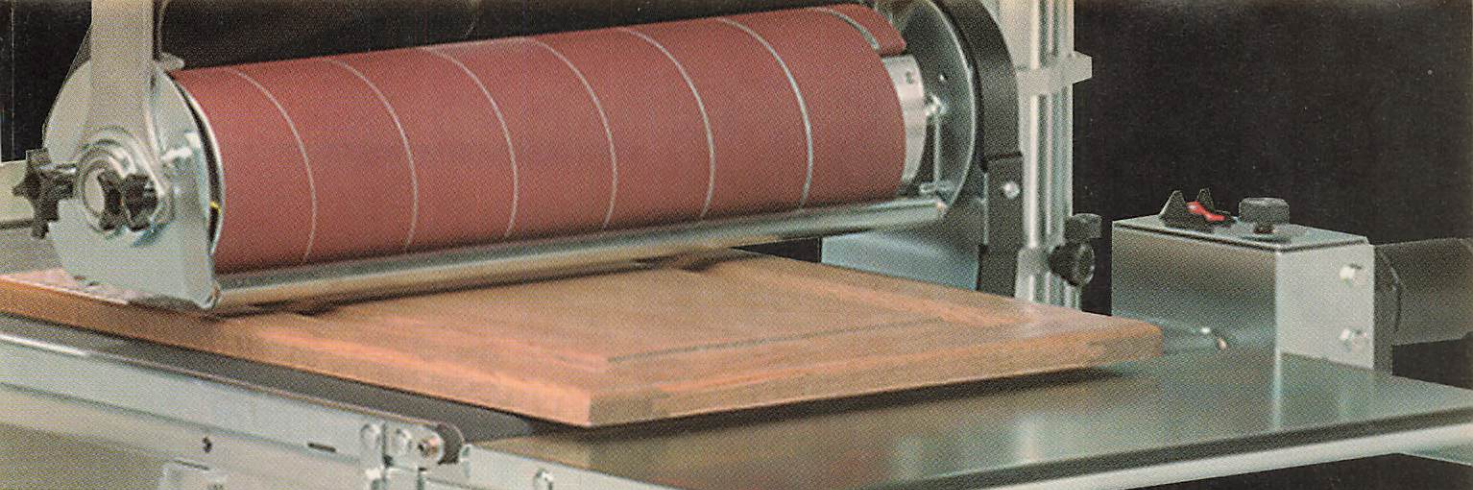
Sources See page 108



STEP 1 DILUTE THE ACTIVATOR SOLUTION with four parts distilled water, and brush it on the cherry. When the activator is used full strength, the catalyst solution turns cherry a very dark color.



STEP 2 BRUSH ON THE CATALYST SOLUTION, full strength, after the activator solution has dried. The cherry changes color immediately.



Performax Drum Sanders Often Imitated Never Equaled

In 1986, Performax created an industry by designing the first open-ended drum sander. Developing a standard by which all others are measured, Performax continues to expand its product line and dominates the marketplace. Often imitated, but never equaled. Our competitors fall short of offering a worthy substitute. In addition to superior sanding capabilities, Performax standard features include a fully adjustable feed roller to eliminate snipe and patented quick-change clips that continually provide tension to the sandpaper, ensuring consistent sanding and superior finish. All Performax drum sanders are quick-to-assemble, the one-piece abrasive strips are a snap to change and the sanders are easy to operate. Only Performax offers the best in overall performance and results. There are 20 Performax sanders with capacities of 16" to 50", from \$799 to \$9,799.



Model 1632



Model 2244

Shown with optional accessories.

PERFORMAX
JET
POWERMATIC

The JET Group

Craftsman-Style Outdoor Chair

By Randy Johnson

Jigs and fixtures make building this chair a breeze—whether it's one or a whole yard full.

If you're looking for an outdoor chair that's comfortable and stable, and yet light enough to move around, you'll appreciate this Craftsman-style beauty. It's based on a chair design published in the early 1900s in a Stickley design magazine called, *The Craftsman* (Fig. A). Originally, I built an exact replica of this chair, but discovered it was too large for the average person and the sling seat was so low and deep that everyone who sat in it responded with "whoa!" and then struggled to get out.

So, I made four additional chairs, changing various parts in an attempt to improve comfort and looks. In the end, I came up with a chair that is smaller and has a stretched-fabric seat. I also added some curves for a softer look. One thing I kept from the original design is the mortise-and-tenon joinery. And for good reason—it's strong.

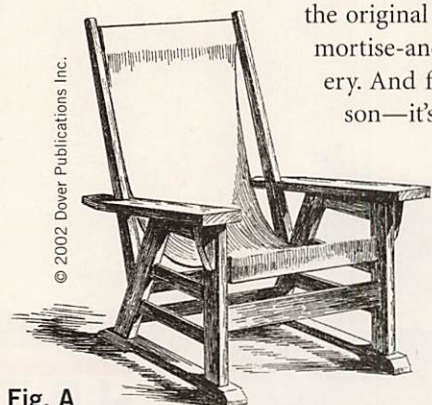


Fig. A
The original Craftsman chair design,
circa early 1900s.

Tools and Materials

The essential power tools you'll need to build this chair are a tablesaw, a planer, a jointer, a bandsaw, a router and router table, a belt sander and a drill. A mortising machine is not a requirement, but it's really handy for the 24 mortises that each chair requires. You'll also need a variety of hand tools and a sewing machine, if you sew the fabric seat yourself.

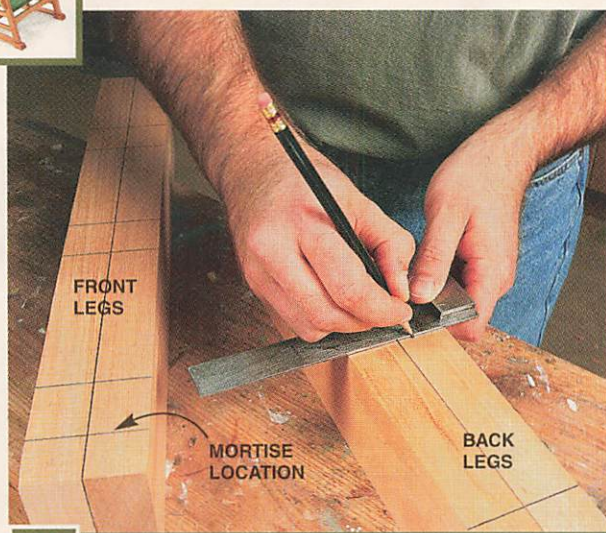
It takes about 20 bd. ft. of lumber to build one chair. If you use mahogany (as we did), the wood will cost you about \$100. A less-expensive option is to use a construction lumber, such as pine 2x4s and 2x6s. Twenty bd. ft. of pine will cost about \$15. If you use construction-grade pine, let it dry for a couple of weeks indoors before using it. If you don't, your parts are likely to warp and twist. The 2-1/3 yards of fabric for the chair seat will run you about \$25. You will also need some galvanized screws and weather-resistant glue (see Sources, page 108).

Make One or Make a Dozen

Because this project lends itself to being mass-produced, we show you how to use jigs and fixtures to produce multiples. However, if you only want to make one or two of these chairs, you can skip one or all of the jigs and fixtures. If you do skip the jigs and fixtures, you'll have to be very careful about measuring and cutting, because without them it's easier to make a mistake.

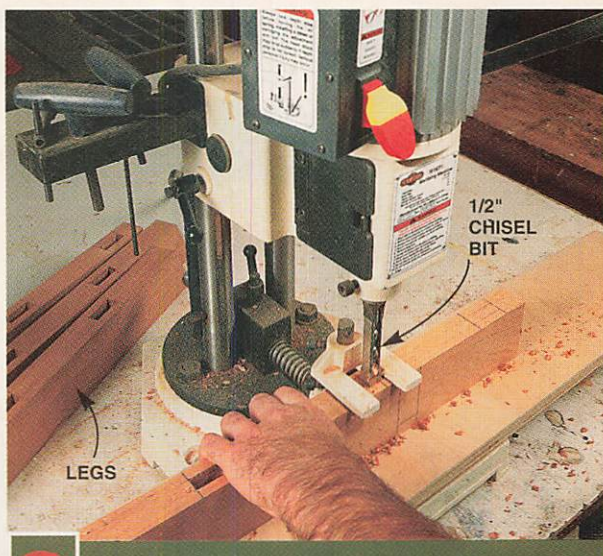


Craftsman-Style Outdoor Chair



1

Mark the mortise locations on the legs. Pairing up the legs improves the accuracy of the layout. Mortise-and-tenon joinery is a good choice for this outdoor chair because it provides strength and durability.



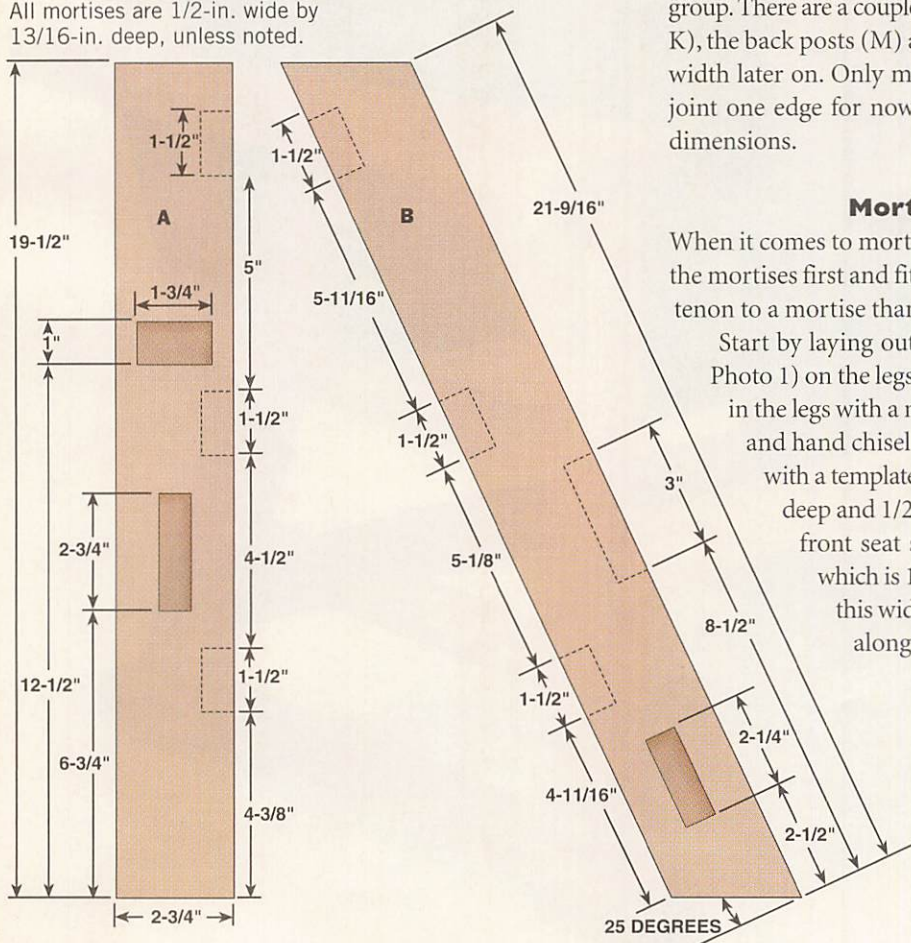
2

Cut the mortises. With 24 to cut, use a machine if you can, it's much faster! All the mortises in this chair are 13/16-in. deep.

Detail 1

Leg Mortise Layout

All mortises are 1/2-in. wide by 13/16-in. deep, unless noted.



Getting Started

It saves a lot of time if you cut all the parts to rough dimensions and machine them to final thickness and width as a group. There are a couple of exceptions to this. The feet (J and K), the back posts (M) and the armrests (N) get cut to final width later on. Only machine them to final thickness and joint one edge for now. See the Cutting List, page 72, for dimensions.

Mortising the Legs

When it comes to mortise-and-tenon joinery, always make the mortises first and fit the tenons second. It's easier to fit a tenon to a mortise than the other way around.

Start by laying out the mortises (Detail 1, at left, and Photo 1) on the legs (A and B). Then make the mortises in the legs with a mortising machine (Photo 2) or drill and hand chisel the mortises or use a plunge router with a template guide. All the mortises are 13/16-in. deep and 1/2-in. wide, except the mortises for the front seat stretcher (Part H, Detail 4, Fig. B), which is 1-in. wide. I find the easiest way to cut this wide mortise is with the help of a spacer along the fence (Photo 3).

Cutting the Rails and Stretchers

These angled rails and tenons can be pretty intimidating, but if you build the cut-off sled (Fig. D) and follow the cutting sequence (Fig. C) they're quite doable.

Detail 2
Armrest Profile

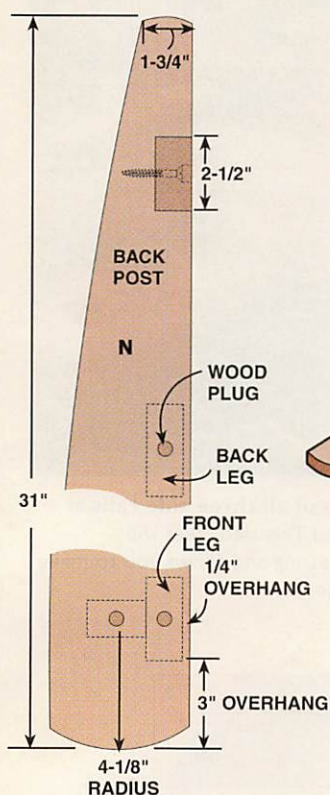
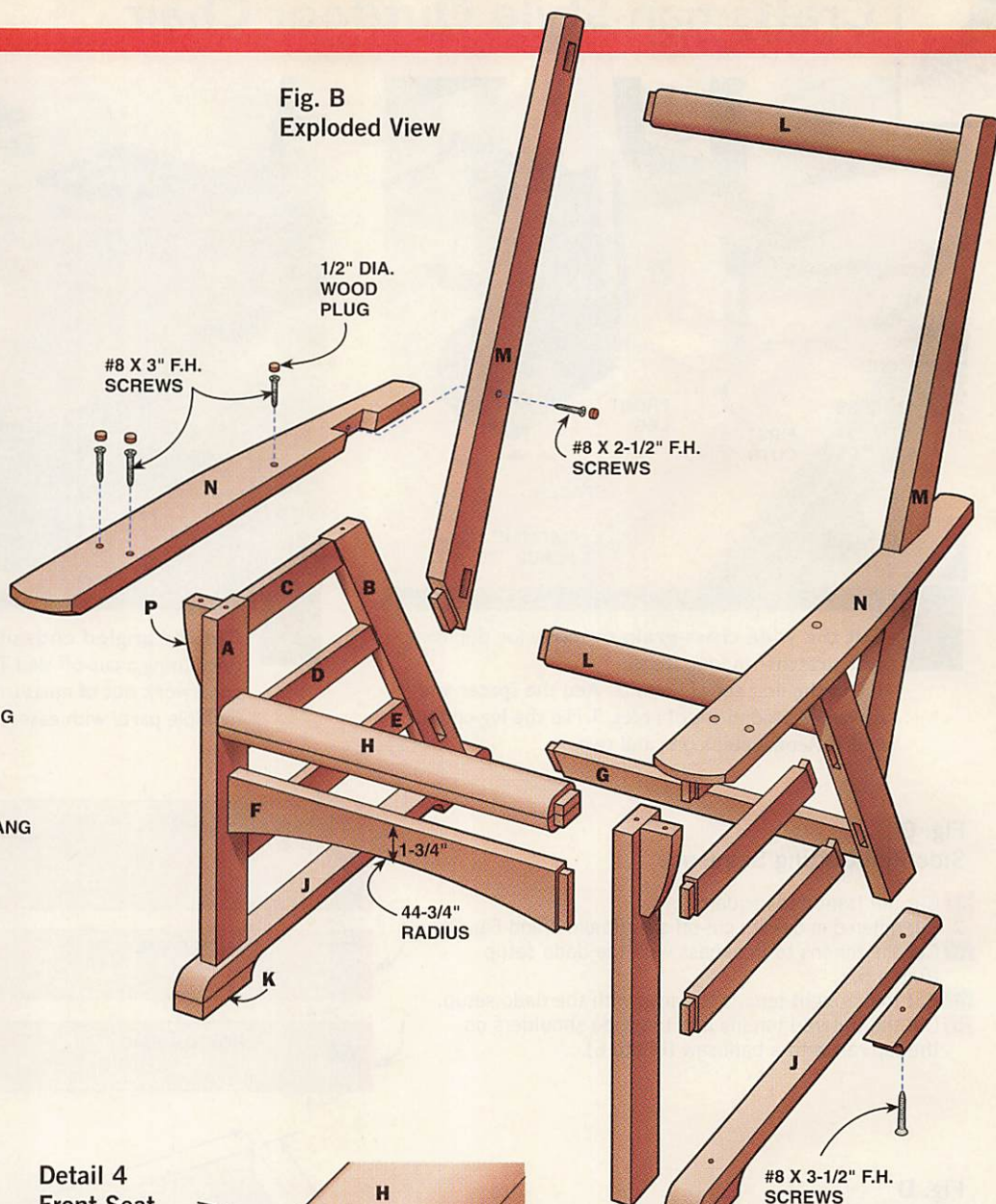
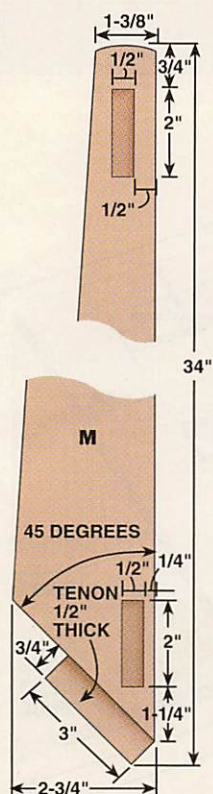


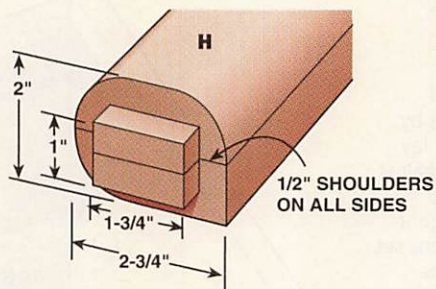
Fig. B
Exploded View



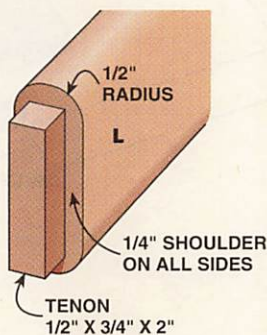
Detail 3
Back Post Profile



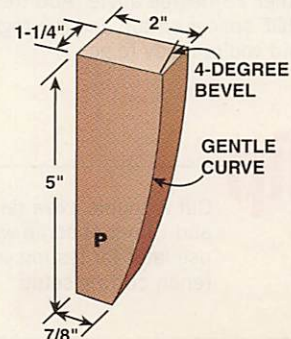
Detail 4
Front Seat Stretcher
Glue up from two 1-in.-thick boards.



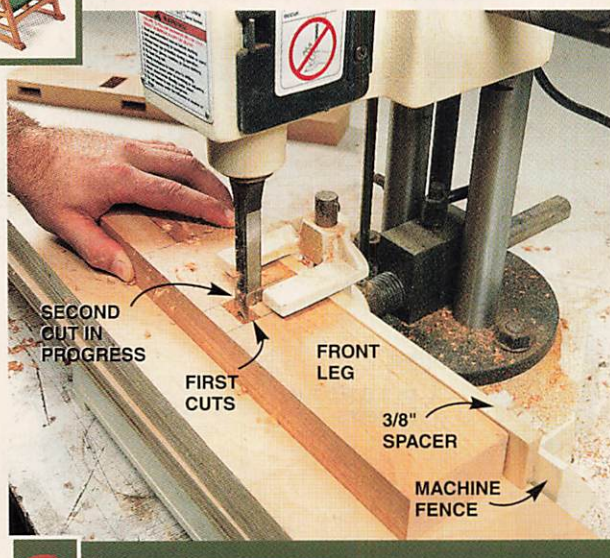
Detail 5
Back Seat Stretcher



Detail 6
Armrest Bracket



Craftsman-Style Outdoor Chair



3

Cut the wide cross-grain mortise for the front seat stretcher in four steps.

1. Cut the first set of holes. 2. Add the spacer and make the second set of holes. 3. Flip the leg end for end. 4. Repeat steps one and two.



4

Cut the angled ends of all three side rails at once using a cut-off sled. This sled takes the guesswork out of measuring and allows you to make multiple parts with ease.

Fig. C
Side Rail Cutting Sequence

- 1** Cut the front ends square.
- 2** Cut mitered ends with cut-off sled (Photo 4 and Fig. D).
- 3** Cut the tenons to thickness with the dado setup (Photo 5).
- 4** Cut the straight tenons to width with the dado setup.
- 5** Cut the mitered tenons and the wide shoulders on the top rail with a bandsaw (Photo 6).

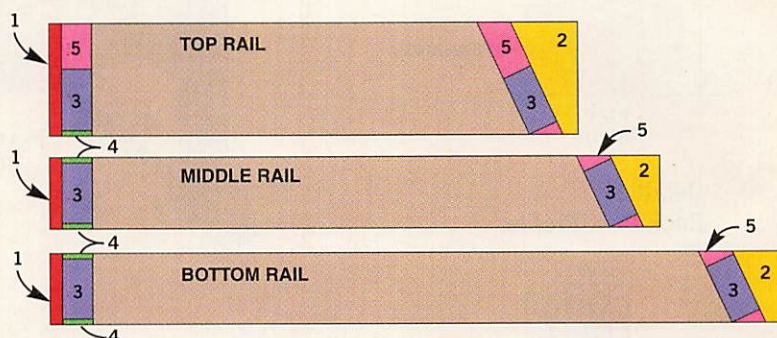
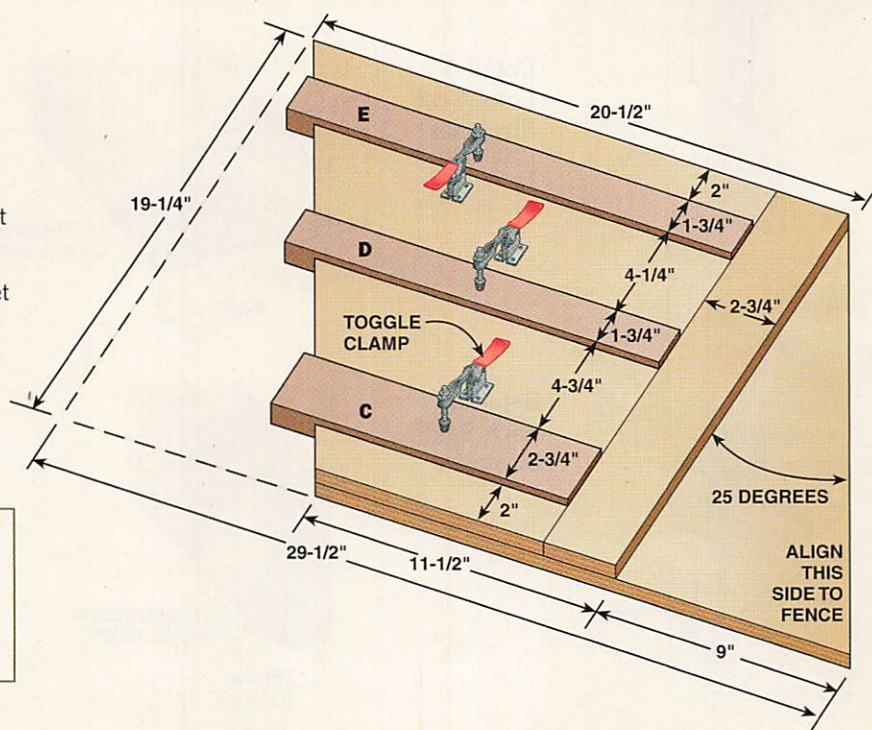


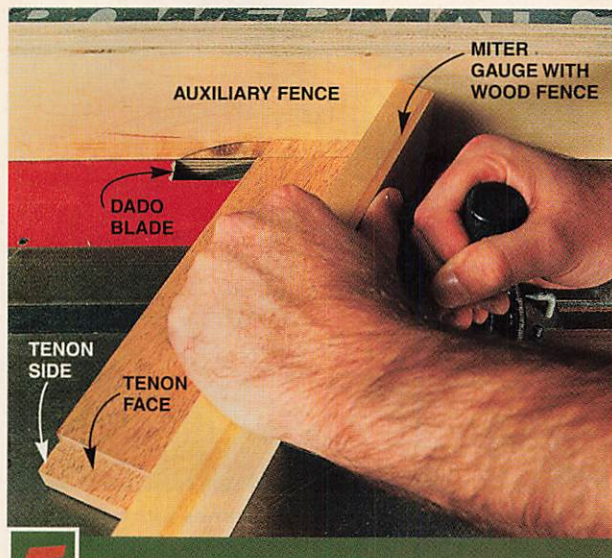
Fig. D
Cut-Off Sled for Side Rails

To build this sled, start with a piece of 3/4-in. plywood cut to 19-1/4-in. wide by 30-in. long. On this piece of plywood, lay out the 25-degree angle that will go against the tablesaw rip fence. Rough cut this angle with your bandsaw or jigsaw. True it up with a router and straightedge. Then, set your tablesaw to 18-1/2 in. and cut the other 25-degree angle. Add the 1/2-in. MDF spacer on top and the toggle clamps and you're ready to go.

Tip

Cut a couple extra rails (C, D and E) out of scrap wood to use later for testing your tenon-cutting setup.





5

Cut the tenons on the rails and stretchers using a dado blade on your tablesaw. For the angled tenons, set your miter to match the angle and run the end of the tenon against the fence.

The blade guard must be removed for this cut. **Be careful.**

The main purpose of the cut-off sled (Photo 4) is to cut the side rails (C, D and E) to an accurate length so they will fit the legs without any gaps (see *Oops!*, page 67).

Now cut the front and back rails (F and G) and stretchers (H and L) to length. Also, cut the miter at the bottom end of the back posts (M) (Detail 3, Fig. B and Fig. F). This saves time later on because you only have to set up your dado blade once to cut all the tenons.

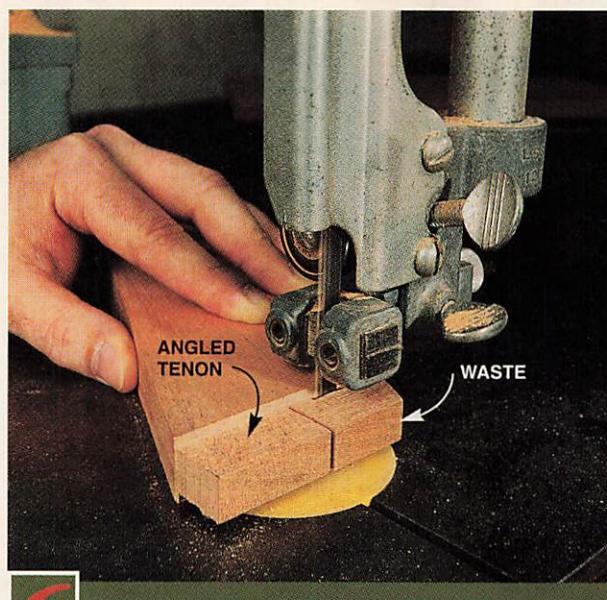
Cutting the Tenons

Everyone has their favorite way to cut tenons, and this is mine. (I also think it's the quickest and easiest way to cut *angled* tenons.)

Start by setting up your dado blade for a 13/16-in.-wide cut. Add an auxiliary wood fence to your tablesaw (Photo 5), and make fence adjustments for a perfect 3/4-in.-wide cut. All the tenons for this chair are 3/4-in. long.

Now set the dado blade for a 1/8-in.-deep cut. Cut a tenon on a test rail and check the fit. When the fit is right, cut all four sides of the straight tenons on the rails (C, D, E, F and G). For the angled tenons on the side rails (C, D and E), adjust your miter gauge to match the angle (Photo 5), and cut the tenon faces with this setup. Readjust the angle on your miter gauge and cut the other side of the angled tenons. Cut the shoulders on the angled tenons with your bandsaw (Photo 6) or with a handsaw.

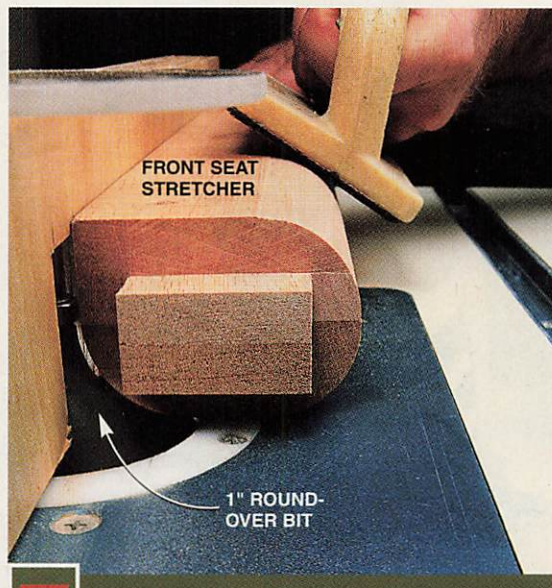
Raise the dado blade to 1/4-in. for the back seat stretchers (L) and the angled tenons on the back posts (M). Raise it to 1/2-in. for the front seat stretcher (H).



6

Bandsaw the shoulders on the angled tenons. It takes a careful hand, but it's quick. A fine-tooth handsaw works as well.

Jigs and fixtures make the joinery precise.

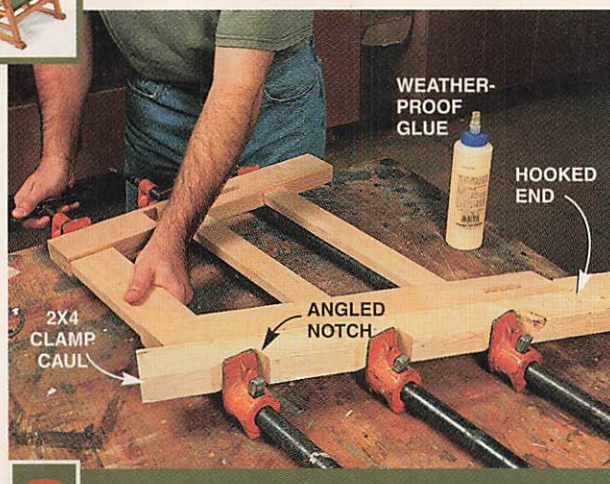


7

Round over three corners on the front seat stretcher with a 1-in. round-over bit in your router table. These large round-overs can also be made by hand planing. The fourth corner is left square. This provides a larger, flat surface to attach the fabric seat to later.



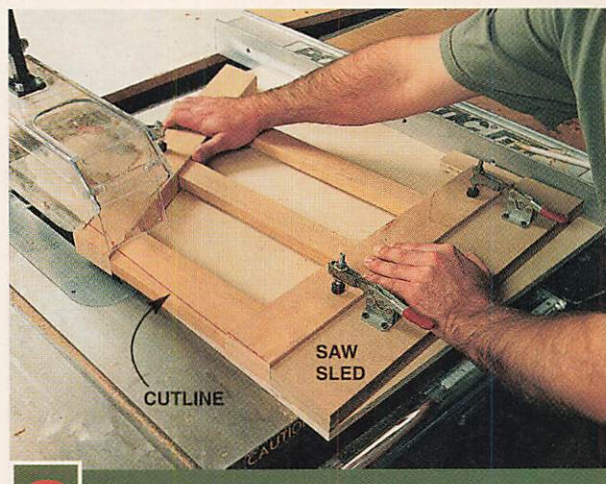
Craftsman-Style Outdoor Chair



8 Clamp the leg frames using a notched clamping caul. The notches keep the clamping pressure in line with the rails and provide a flat surface for the clamp jaws to hold onto. The hooked end keeps the caul from sliding under pressure.

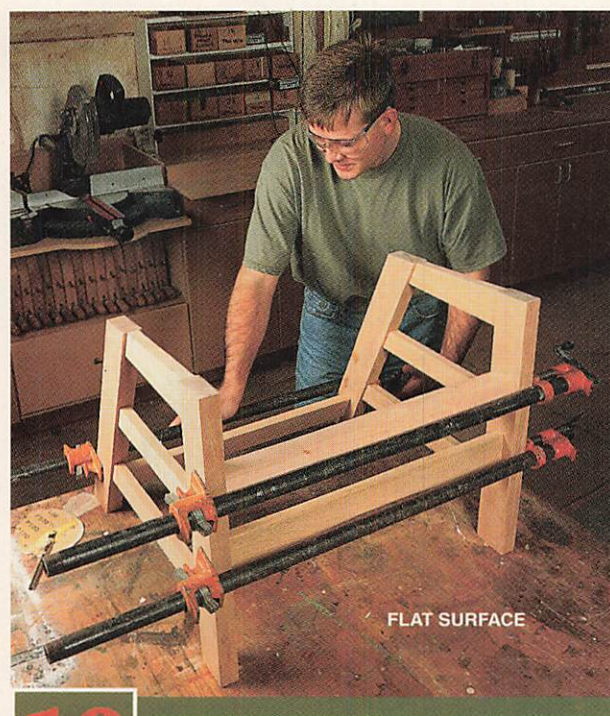
Tip

When assembling the leg frames, it works best to insert the angled tenons into the back leg first and then add the front leg.



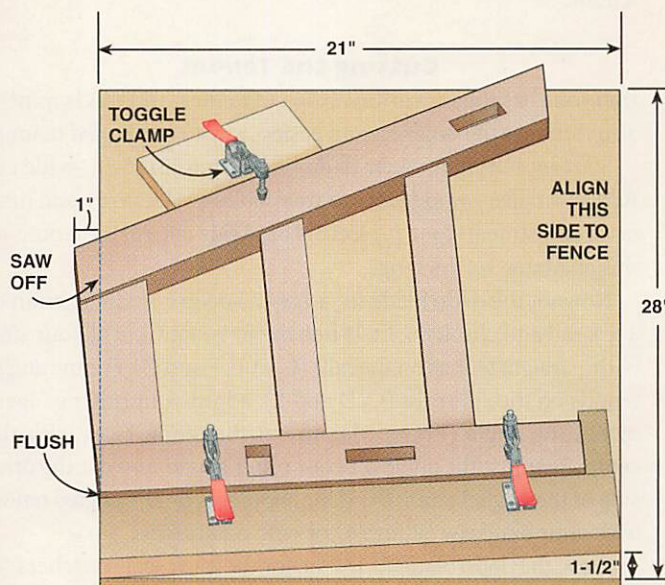
9 Taper the top of the leg frames with a saw sled. If you are only making one or two chairs, you can forgo this sled and just use a bandsaw and belt sander.

The secret to clamping angled assemblies, like the chair sides, is to keep the clamping pressure at a right angle to the joint.



10 Glue and clamp the chair base. Assemble the base on a flat surface and make sure all the legs are touching the benchtop.

Fig. E
Cut-Off Sled for Leg Frames



Assembling the Base

I scratched my head a bit about the best way to clamp the angled leg frames. I decided to make a notched clamping caul out of a 2x4 and it worked perfectly (Photo 8).

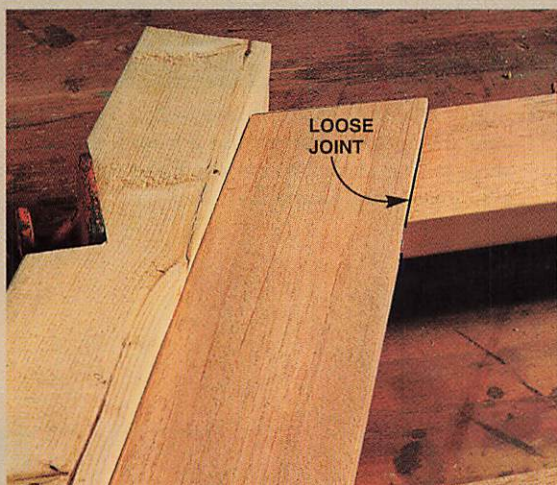
Be sure to test-fit and sand all the parts before final gluing. While you're waiting for the glue to dry, rout the large round-overs on the front seat stretcher with a 1-in. round-over router bit (Part H, Photo 7; see Sources, page 108).

Next, round both sides of the back seat stretchers (Parts L, Detail 5, Fig. B). A 1/2-in. round-over bit in your router table will do the job (see Sources, page 108). Bandsaw the

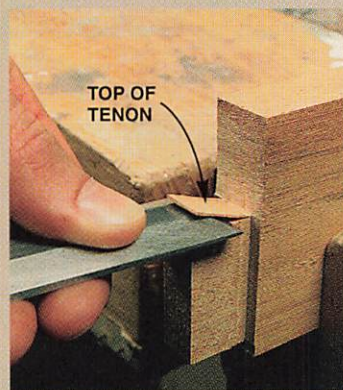
arch in the front rail (Part F, Fig. B) now.

The side leg frames need to be tapered at the top so the armrests will slope. A tablesaw sled makes this process quick and accurate (Fig. E and Photo 9). You can now assemble the entire chair base (Photo 10).

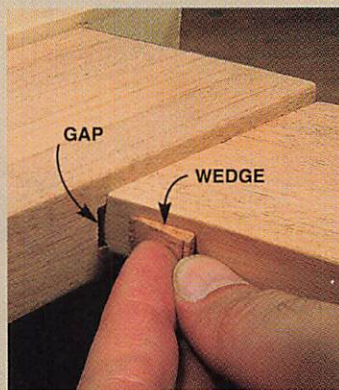
The foot assemblies are made by gluing the foot blocks (K) to the foot rails (J). After the glue is dry, joint and plane this assembly to final width and cut to final length. The curves can now be bandsawn and sanded. Attach the foot assembly with a single screw at each leg (Photo 11).



Dry-fit the leg frames to check for any loose joints.



Chisel or bandsaw a small amount off the top of both tenons on the loose rails.

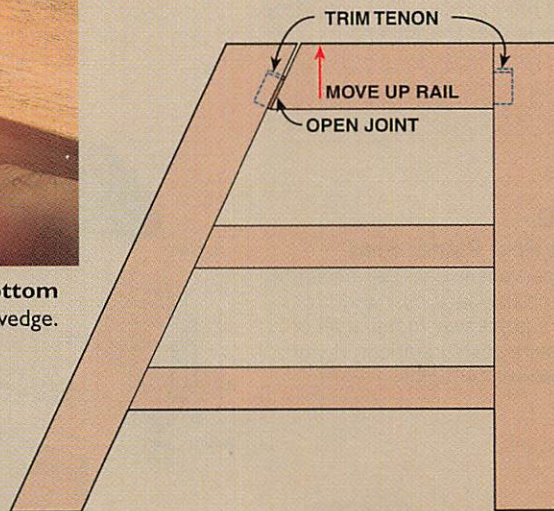


Fill in any gap at the bottom of the tenon with a small wedge.

Oops!

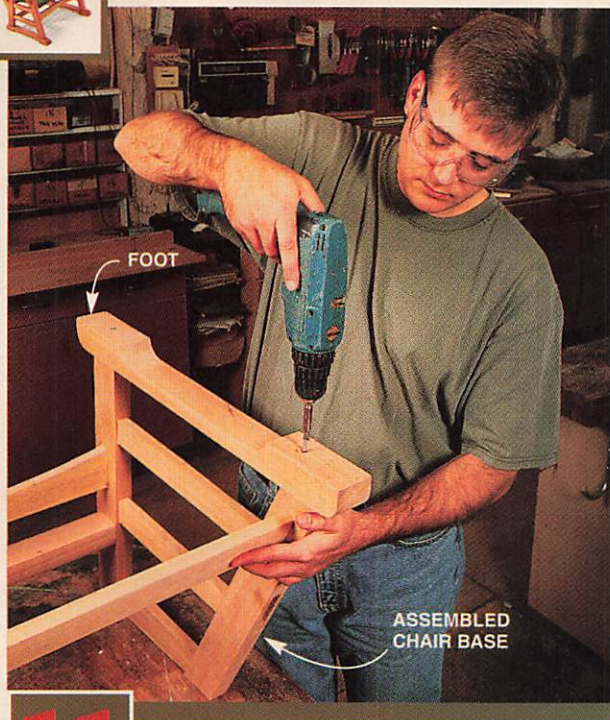
When building the prototype for this chair, I didn't use the crosscut sled to cut the angled rails. I cut the rails one at a time instead. My measuring wasn't as accurate as I thought! I ended up with a gap at one of the joints (photo at left). I managed a slick fix by trimming off the top of the tenons on that rail (photo below, left and illustration below). This opened up a small gap (photo below) on the lower side of the tenon, but this was easily filled by gluing in a small wedge of wood.

If an angled joint has a gap, trim the top side of both tenons so you can slide the rail up until the joint is tight.





Craftsman-Style Outdoor Chair



11 Attach the foot assembly with one screw at each leg. Drill pilot holes in the feet and legs to lessen the chance of anything cracking. I don't use glue here so the foot assemblies can easily be replaced if they become worn or suffer decay.

Fig. F
Back Post Cutting Sequence

- 1 Cut the miter at 45 degrees.
- 2 Cut the tenon to thickness with the dado setup (Photo 5).
- 3 Cut the tenon to width with a bandsaw (Photo 6).
- 4 Cut the back post to final length.
- 5 Rough-cut the taper with a bandsaw.
- 6 Plane the taper with the planer sled (Photo 12, Fig. G).
- 7 Cut the mortises 13/16-in. deep.
- 8 Round over the top end.

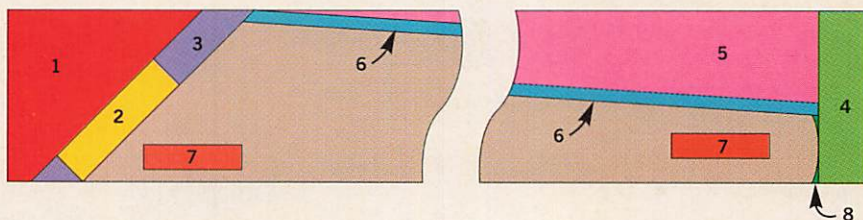
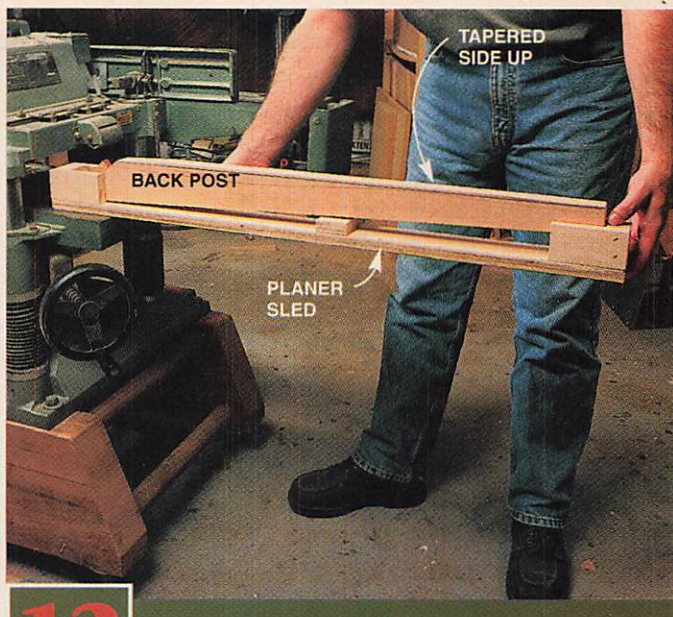
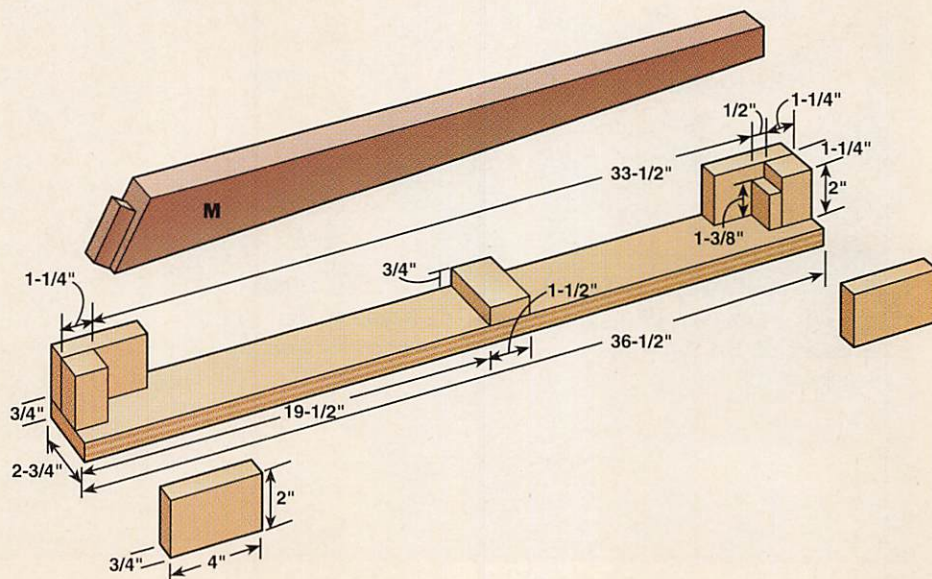


Fig. G
Back Post Planer Sled

This sled ensures you an accurate taper on the back post and provides a quick way to make all of your back posts identical, if you are making multiples.



12 Taper the back post with the help of a planer sled. Wax the bottom of the sled so it feeds smoothly through your planer. You can also make this taper with your jointer or a hand plane.



13

Assemble the back frame with glue and clamps. Check for square by measuring corner to corner.

Adding the Back

Complete the back posts (Parts M, Detail 3, Fig. B) by following the cutting sequence in Fig. F. The planer sled (Photo 12, Fig. G) takes the guesswork out of getting an accurate angle.

When you're done making the back posts, glue and clamp the back frame together (Photo 13). Clamp the back frame to the base with the help of a couple of angled clamping blocks (Fig. H) and a 2x4 clamping block (Photo 14). The real secret to clamping angles is to keep the clamping pressure at a right angle to the joint.

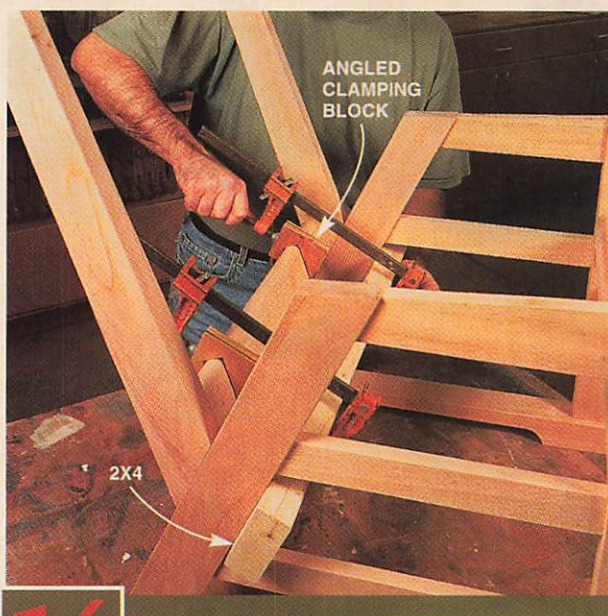
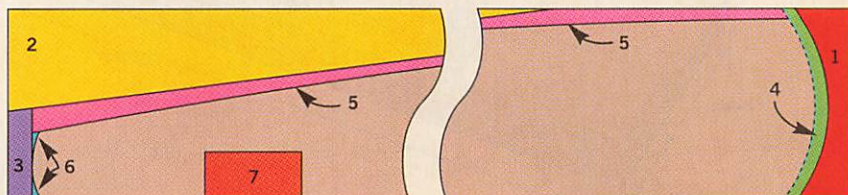
Fitting the Armrests

To make the armrests, follow the cutting sequence in Fig. J and fit them to the back posts (Photos 16 and 17). Counterbore for the wood plugs and drill pilot holes for the screws (Fig. B). Attach the armrests with glue and screws (Photo 18).

Fig. J

Armrest Cutting Sequence

- 1 Bandsaw and sand the front curve.
- 2 Rough-cut the side curve with a bandsaw.
- 3 Trim the armrest to final length.
- 4 Rout the chamfer on the front edge.
- 5 Rout the final side curve with the router template (Photo 15, Fig. K).
- 6 Sand the back end round.
- 7 Cut the notches for the back posts (Photos 16 and 17).



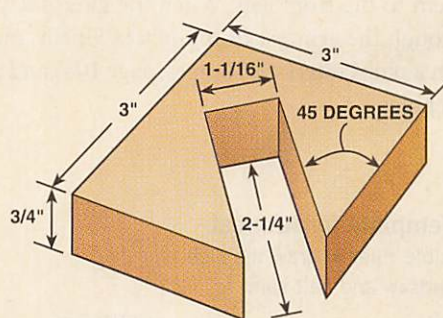
14

Attach the back frame to the base with the help of angled clamping blocks and a 2x4. This arrangement puts pressure at a right angle to the joint and keeps everything tight until the glue dries.

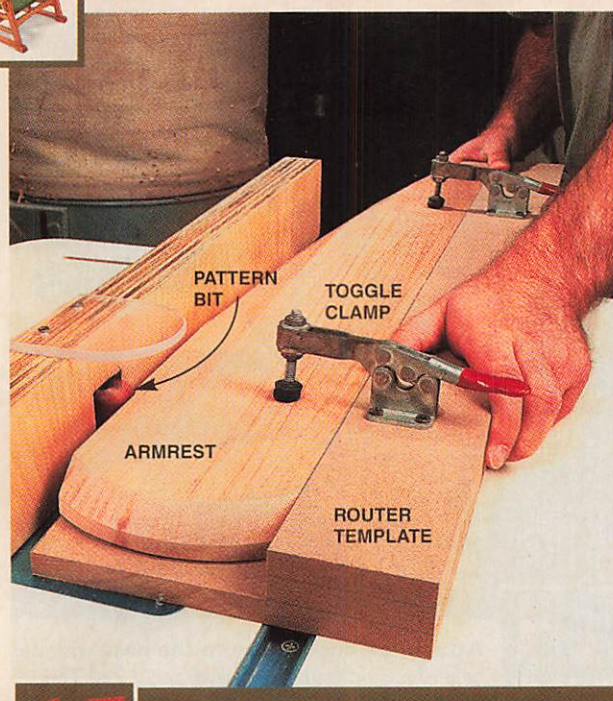
Fig. H

Angled Clamping Block

This block makes it possible to easily clamp the angled back frame to the chair base.

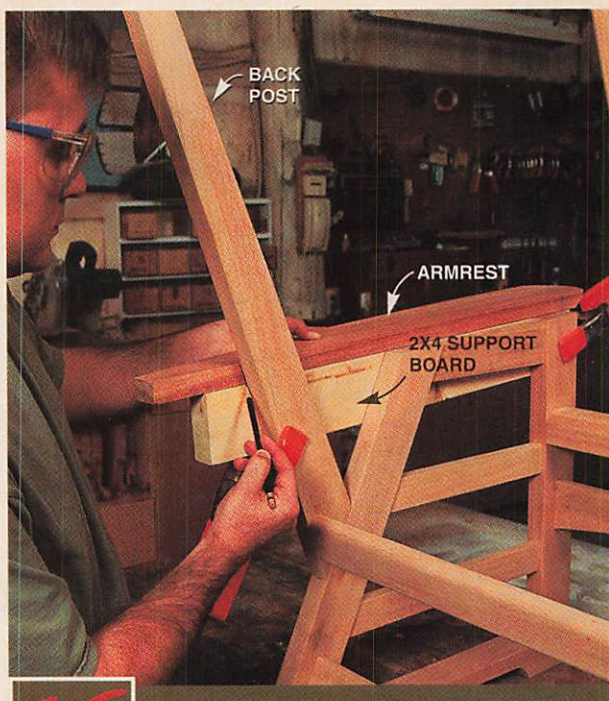


Craftsman-Style Outdoor Chair



15

Route the side profile on the armrest with the router template and a large pattern bit. A belt sander can do the job if you are only making one or two chairs.



16

Mark the armrest for the notch that connects it to the back post. Be sure to mark this important joint carefully because it helps support the back post. You want the joint to fit snugly. To simplify this task, clamp a scrap of 2x4 to the side frame to support the armrest while marking the notch.

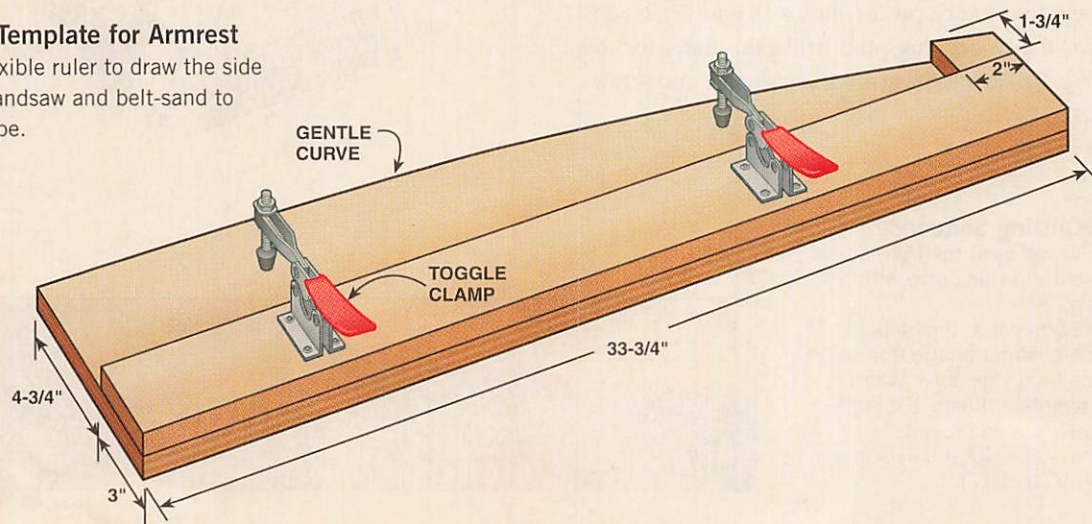
Make the armrest brackets (Detail 6, Fig. B) and glue and clamp them to the front legs. When the glue is dry, add a screw through the armrest from the top. Finally, make the plugs with a plug cutter (see Sources, page 108) and plug all the screw holes.

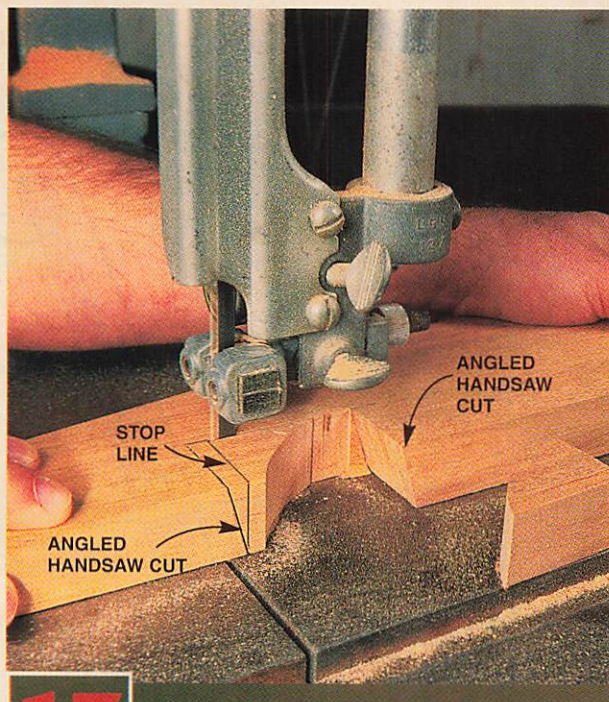
Finishing for Outside Use

If you want your mahogany chair to weather to a gray patina, leave it unfinished. If you want to maintain the look of new wood, apply a good-quality clear finish.

Fig. K
Router Template for Armrest

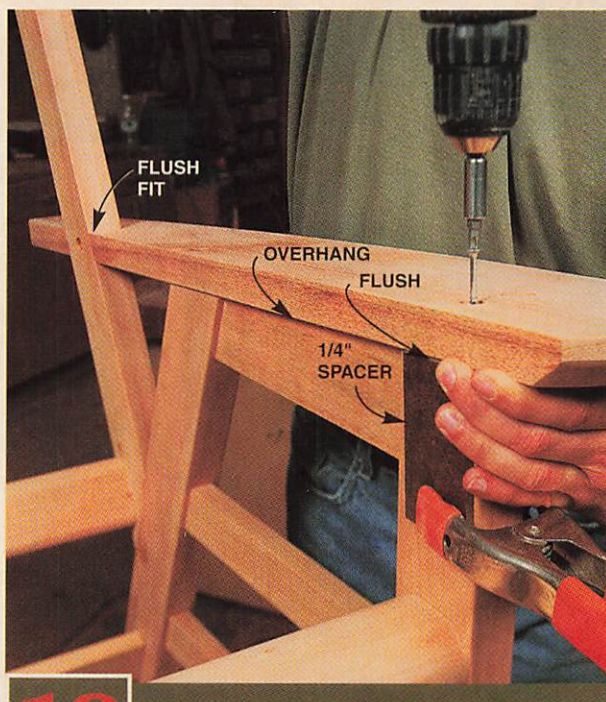
Use a flexible ruler to draw the side curve. Bandsaw and belt-sand to final shape.





17

Cutting the notch in the armrest requires angled and straight cuts. First make the angle cuts with a handsaw. Then mark a stop line so you don't over cut when bandsawing the rest of the notch. The waste remains attached by a small amount of wood, but it is easily snapped off. Clean up any roughness with a chisel.

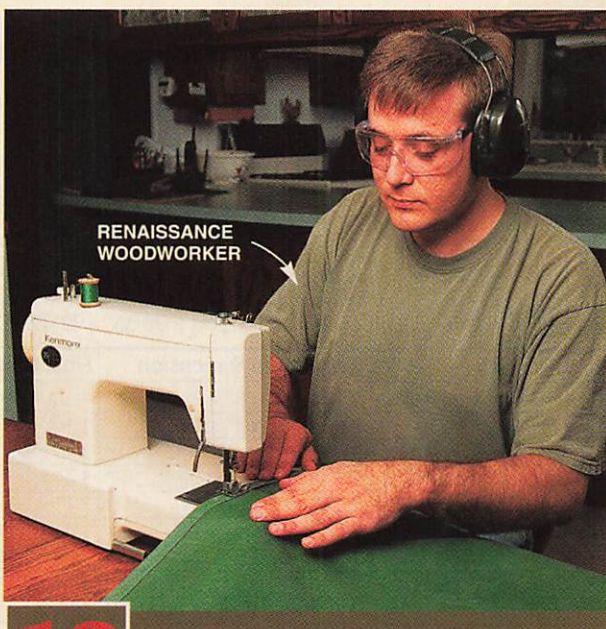
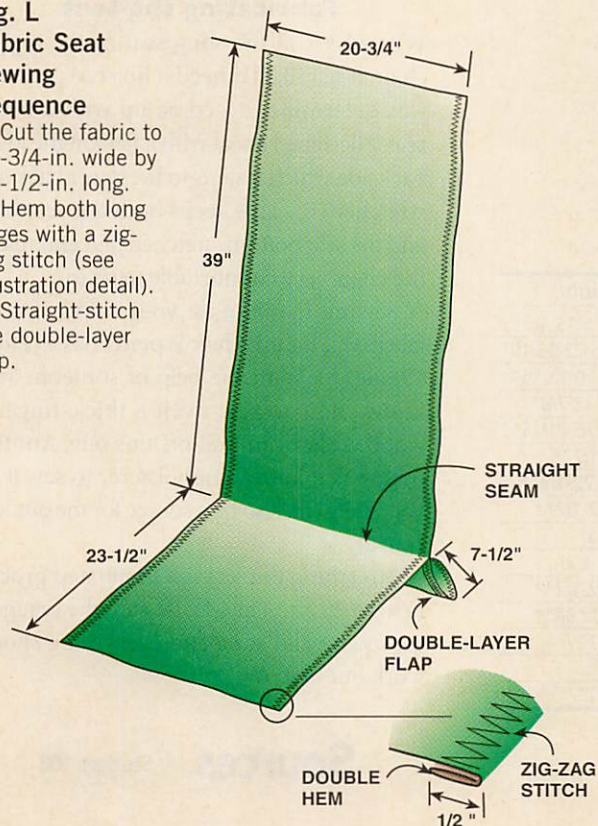


18

Attach the armrest. First screw it to the back post. Then twist the arm slightly to create a 1/4-in. overhang on the inside at the front leg. Counterbore for the wood plugs and drill pilot holes for the screws. Finally, glue and screw the armrest to the legs.

**Fig. L
Fabric Seat
Sewing
Sequence**

1. Cut the fabric to 22-3/4-in. wide by 77-1/2-in. long.
2. Hem both long edges with a zig-zag stitch (see illustration detail).
3. Straight-stitch the double-layer flap.



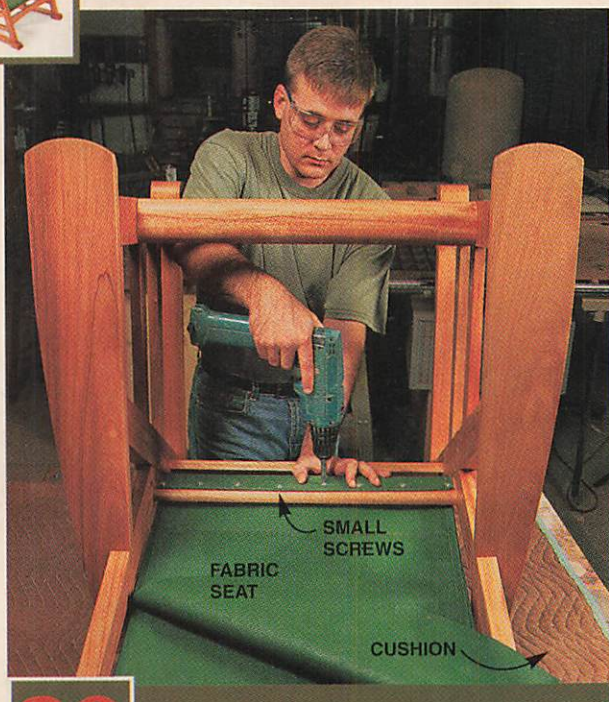
19

Sew the fabric seat. Do it yourself, bribe a relative or hire an upholsterer. Outdoor canvas is available in many colors and patterns (see Sources, page 108). It's made to withstand sun and rain, and is mildew resistant.

Sewing needles are really sharp so don't forget to wear your safety gear (just kidding!).



Craftsman-Style Outdoor Chair

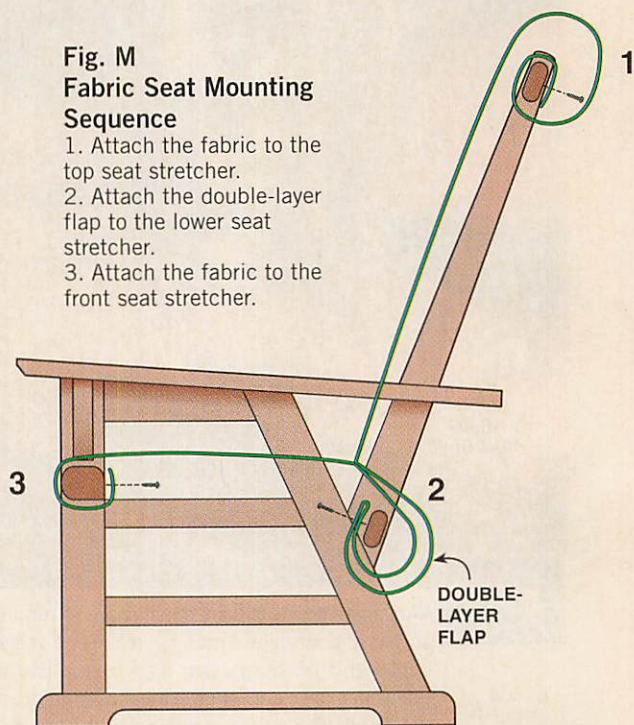


20

Install the fabric seat with small screws. They're easy to remove if you need to retighten or replace the seat. Stretch the fabric taut when installing it.

Fig. M
Fabric Seat Mounting Sequence

1. Attach the fabric to the top seat stretcher.
2. Attach the double-layer flap to the lower seat stretcher.
3. Attach the fabric to the front seat stretcher.



A good outdoor chair should be comfortable, stable and light enough to move around.

CUTTING LIST

Overall Dimensions: 41-1/2"H x 30"W x 33-1/2"D

Part	Name	Qty.	Rough Dimension	Final Dimension
A	Front legs	2	1-1/2" x 3" x 21-1/2"	1-1/4" x 2-3/4" x 19-1/2"
B	Back legs	2	1-1/2" x 3" x 24"	1-1/4" x 2-3/4" x 22-13/16"
C	Top side rails	2	1" x 3" x 12"	3/4" x 2-3/4" x 10-13/16"
D	Middle side rails	2	1" x 2" x 15"	3/4" x 1-3/4" x 13 7/8"
E	Bottom side rails	2	1" x 2" x 18"	3/4" x 1-3/4" x 16-11/16"
F	Front arched rail	1	1" x 3-1/4" x 24"	3/4" x 3" x 22-1/2"
G	Rear leg rail	1	1" x 2-1/2" x 24"	3/4" x 2-1/2" x 22-1/2"
H	Front seat stretcher	1	2-1/2" x 3" x 24"	2" x 2-3/4" x 22-1/2"
J	Foot rails	2	1-1/4" x 2-1/2" x 27"	1" x 2-1/4" x 26"
K	Foot blocks	4	1-1/4" x 2-1/2" x 6-1/2"	1" x 2-1/4" x 5-1/2"
L	Back seat stretchers	2	1-1/4" x 2-3/4" x 24"	1" x 2-1/2" x 22-1/2"
M	Back posts	2	1-1/2" x 3" x 36"	1-1/4" x 2-3/4" x 34"
N	Armrests	2	1-1/4" x 5" x 32"	1" x 4-3/4" x 31"
P	Armrest brackets	2	1-1/2" x 2-1/4" x 6"	1-1/4" x 2" x 5"
Q	Fabric seat	1	22-3/4" x 77-1/2"	20-3/4" x 77-1/2"

* Includes tenons

Fabricating the Seat

When I sat in the sling seat of the replica chair, it felt like I'd need a hoist to get out. I was determined to come up with a better seat. I designed a seat with a flap on the lower backside which fastens to the lower back seat stretcher (L). This keeps both the seat back and the seat bottom stretched taut and makes the chair very comfortable to sit in.

Sewing may not be your thing, but the fabric seat for this chair is pretty basic (Photo 19, Fig. L). With the help of someone who knows how to sew, even a thick-fingered woodworker can pull off this one. Another option is to hire an upholsterer to sew it for you. They can also be a source for the outdoor canvas.

Stretching the seat is a three-step process (Photo 20 and Fig. M). Be sure the seat goes on square and snug and everything should work out fine. **AW**

Sources See page 108

Scientists use NASA research to create "smart bed" sleep surface

Revolutionary heat-sensitive material originally developed for the space program turns any mattress into a comfortable customized sleep surface.

Turn your mattress into an ideal sleep surface

- Thermo-sensitive visco-elastic foam
- Contours to user's body
- Hypoallergenic
- Space age foam memorizes your body's shape for a better night's sleep
- Promotes proper spine alignment
- Helps relieve back pain, insomnia...even arthritis



"I saw this product in a magazine ad and decided to give it a shot. It is terrific and has made a huge difference in the quality of my 'sleep time.' I compared it to other visco-elastic products costing more than 10 times as much and found your product to be a superior value. My wife has also benefited from this product."

—Chris M., California

Results not typical

Just because you are asleep, you shouldn't assume that you are getting the proper amount of rest. Tossing and turning in bed can diminish the value of your sleep. What's more, most mattresses fail to support your spine properly, which can result in increased pressure on certain parts of your body. Now, one of the world's leading manufacturers of foam products has developed a revolutionary new material that can actually change the way you sleep. The material is a new visco-elastic foam, and it is the key to the Structure™ Memory Foam Mattress Topper.

Space age sleep technology. Originally developed by the Space program researchers to increase the comfort of astronauts during flight, visco-elastic foam represents a quantum

leap in bedding technology. The open-celled construction of Structure™ Memory Foam creates a mattress with a memory. It automatically senses your body weight and temperature, and then it responds by molding to your body's exact shape and position. This distributes your weight and reduces stress on your body's pressure

points: the shoulders, hips and legs. This can revitalize your old mattress and make sleeping comfortable again. Now, thanks to improved manufacturing techniques, this revolutionary material is more affordable than ever.

Affordable and comfortable. You can spend thousands of dollars on a new mattress, but why do it? The Structure™ Memory Foam Mattress Topper can turn your existing mattress into an ideal sleep surface. This new visco-elastic foam is 2 inches thick, which is the ideal thickness for providing comfort and retaining shape over time. When you lie down on this amazing material, the heat and pressure sensitive foam reacts to your body's weight and temperature, so that it molds to your exact body shape. This means that whether you sleep on your back, stomach or side, your weight is evenly distributed and your spine remains in a neutral position. Other surfaces support your body at the shoulders, hips and legs only. This causes your spine to sag in other areas, which can often result in discomfort, and even back pain. This product not only helps you avoid back pain, it can help reduce tossing and turning. By molding to your body's shape, the Structure™ Memory Foam Mattress Topper can help you sleep more soundly and restfully. You'll wake up rested, relaxed and ready to take on the day. Anyone who suffers from insomnia, back pain...even arthritis...can benefit from this new technology.

Special offer from TechnoScout.

Thanks to our special relationship with the manufacturer of this product, we can offer it to you at a special price...with a bonus.

Order now and you'll receive a fitted mattress pad for free! It's heavyweight and quilted, and made of 200-count 100% cotton with a 15-inch deep fitted spandex skirt to fit a mattress up to 21" thick...a \$69.95 value!

It's risk-free. If you have trouble getting comfortable at night, just imagine how astronauts feel. The same padded surface designed to absorb tremendous forces has been incorporated into this amazing sleep surface. This Mattress Topper can change the way you sleep. It comes with a five-year manufacturer's limited warranty and TechnoScout's exclusive risk-free trial. If you are not satisfied for any reason, simply return it within 30 days for a complete "No Questions Asked" refund.

☐ Yes, I want to take advantage of the latest bedding technology!

Structure™ Memory Foam Mattress Topper: Sizes Twin through California King with prices starting as low as 3 easy credit card payments of 3P-2454 \$49.95 each \$14.95 S&H **FREE** mattress pad—a \$69.95 value!

Please mention promotional code 22217.

For fastest service, call toll-free 24 hours a day

800-231-3511

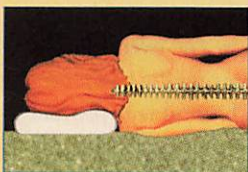
*For mail-in orders, please call for individual cost of the various sizes along with shipping and handling. To charge it to your credit card, enclose your account number and expiration date. Virginia residents only—please include 4.5% sales tax.

"Structure" is a trademark of the Carpenter Co.

LATEST...GREATEST...NEATEST...COOLEST
You can see hundreds of high-tech products at www.technoscout.com

TECHNO SCOUT
1998 Ruffin Mill Road
Colonial Heights, Va 23834

Does your mattress have "body memory?"



The open-celled, visco-elastic construction of Structure™ foam enables it to automatically sense your weight and temperature, and responds by molding to your body's exact shape and position. This means that whether you sleep on your back, stomach or side, your weight is evenly distributed and your spine remains in a neutral position.



HEAVY-DUTY FOLDING SHOP TABLE

By Tom Caspar

Need more bench space? Who doesn't? Here's a terrific solution: a folding worktable that's both big and strong. And we mean *strong*.

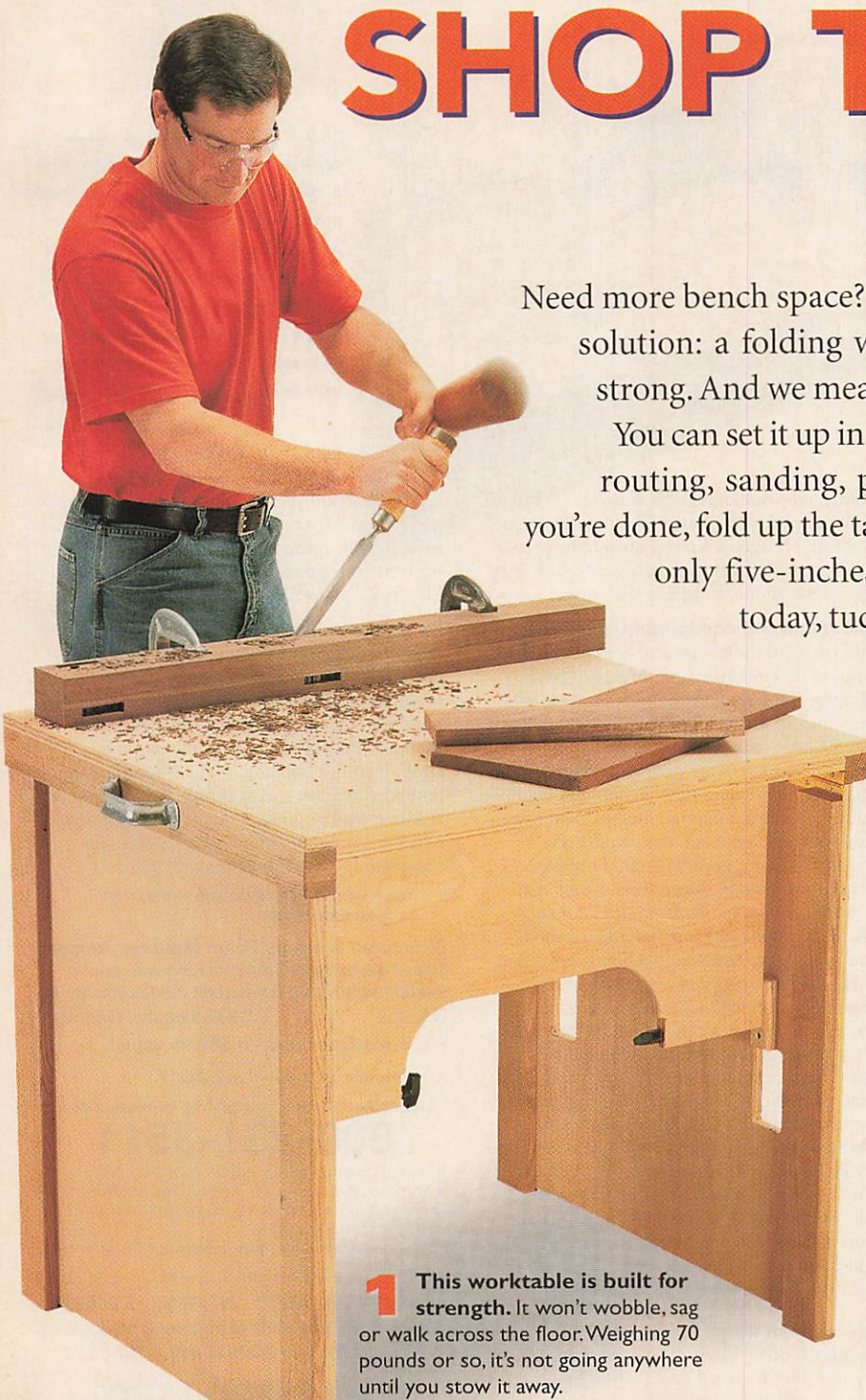
You can set it up in only a minute and be ready for routing, sanding, planing—you name it. When you're done, fold up the table into a super-compact unit only five-inches thick and stow it away. Here today, tucked away tomorrow.

Strong = Heavy

This table weighs in at about 70 lbs., a bit more than the full sheet of plywood it's made from. A lighter table made of smaller plywood parts would be more portable, but not stiff enough to use as a real workbench (Photo 1). For heavy-duty use, extra weight is actually a plus. This table stays put!

The keys to this table's strength are its wide rails, rigid continuous hinges and hardwood legs. The oversize rails and long hinges prevent the table from racking. The solid-wood legs prevent the plywood end panels from bending or shaking.

Go ahead and shove this table around the shop. The hardwood legs can take the punishment. Folded up, it stands on a durable hardwood rail, so you can slide the table across the floor into a small cubbyhole (Photo 2).



1 This worktable is built for strength. It won't wobble, sag or walk across the floor. Weighing 70 pounds or so, it's not going anywhere until you stow it away.



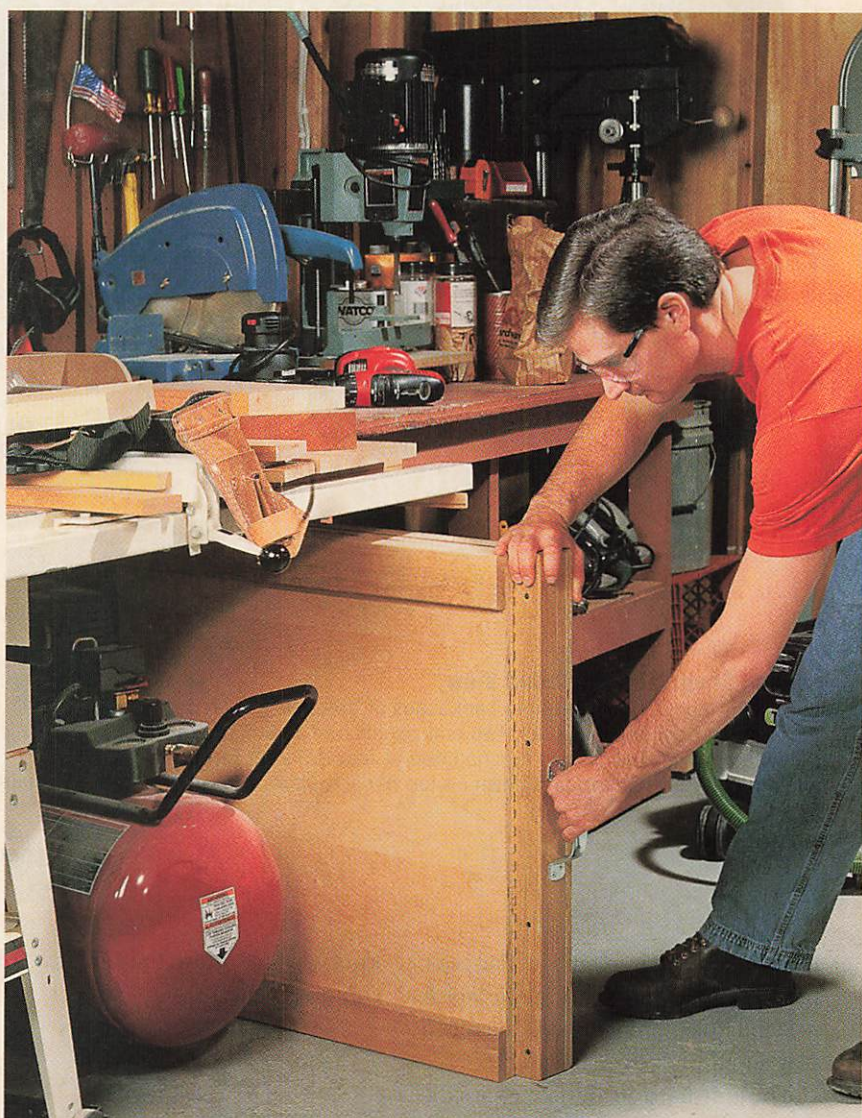
Tools and Materials

This is a low-cost, easily built plywood project. Total cost is about \$75, half for the wood and half for the hardware. You can build it in a day, no sweat, using little more than a tablesaw, jigsaw, hacksaw and a drill. All you have to do is cut a few plywood pieces to size, rip and cut some narrow 3/4-in.-hardwood boards to length and accurately drive in a whole mess of hinge screws. To make setting the hinges a lot easier, we recommend using a self-centering bit (see Sources, page 108).

Build your table from one sheet of an inexpensive grade of birch plywood (about \$40). Fir plywood and MDF are even less expensive, but both are inferior substitutes. Fir plywood is usually quite twisted and MDF is way too heavy.

You'll need some 3/4-in. solid wood for mounting the hinges. Plywood won't do, because the hinge screws run into the edge of these boards. This would place the screws between the plies and chances are they wouldn't hold. Pine isn't a great choice, either, because it's too soft to hold small screws well. Go with a hardwood that's milled flat so you can glue its faces together. Birch or red oak are good choices.

Pick up most of the hardware at a hardware store or home center (see the Shopping List on page 79). It'll add up



2 This table is built like a rock but knocks down in only a minute. You don't need any tools and you don't have to keep track of any loose pieces. Simply unscrew four knobs, fold the rails and legs on top of each other and tuck the worktable away.

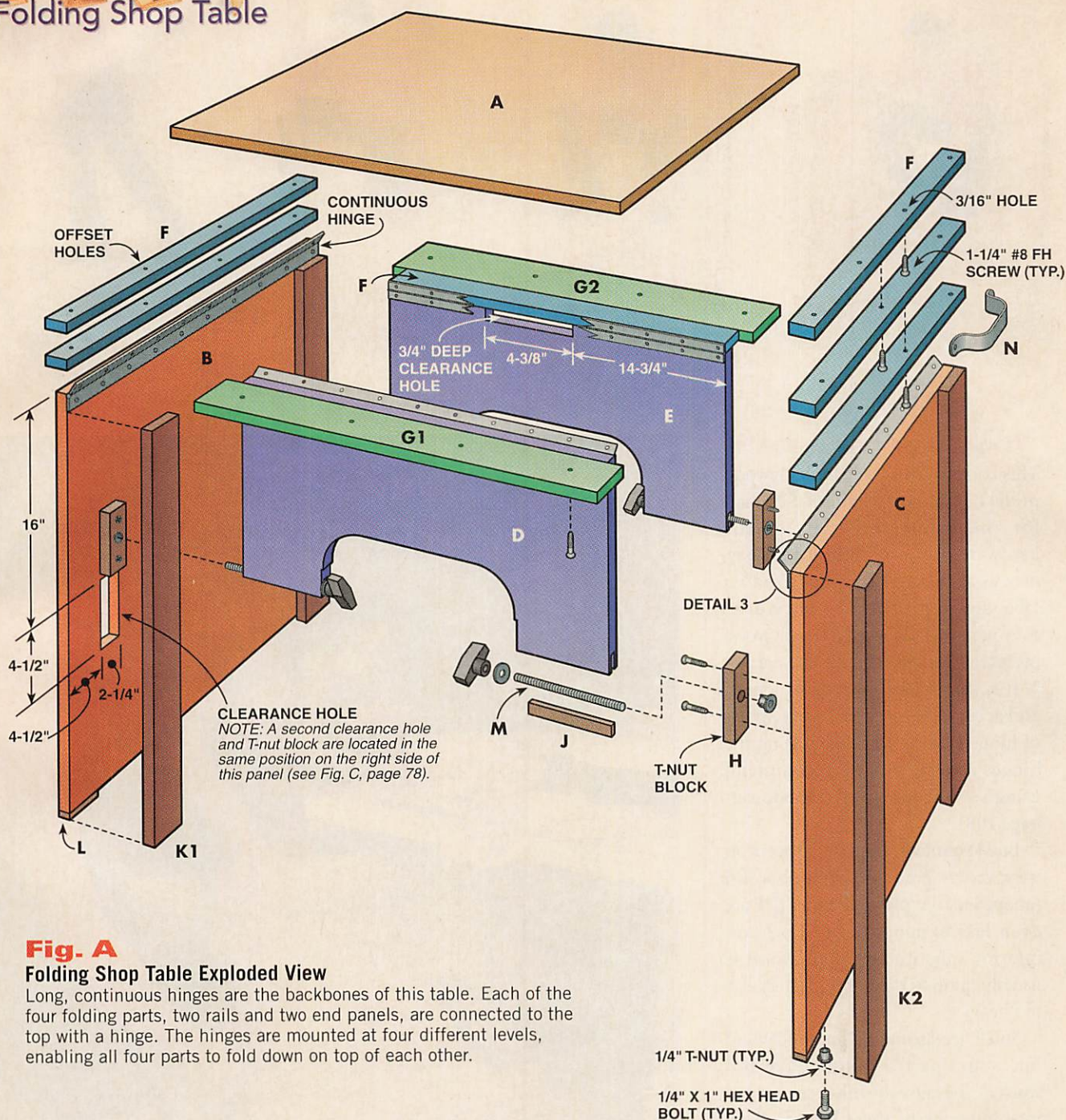


Fig. A

Folding Shop Table Exploded View

Long, continuous hinges are the backbones of this table. Each of the four folding parts, two rails and two end panels, are connected to the top with a hinge. The hinges are mounted at four different levels, enabling all four parts to fold down on top of each other.

to about \$35. A good chunk of that is for the continuous hinges, but they're worth it. Standard butt hinges allow too much play and the table would wobble.

The only hard-to-find items are the large knobs on the rails. We used T-style knobs because they offer a lot of leverage and have a low profile (about \$2 each, see Sources, page 108). (Round

knobs won't allow the table to fold completely flat.)

Making the Plywood Parts

Begin by cutting up the entire sheet of plywood (see Fig. B, page 77). Note in the Cutting List, page 79, that End Panels B and C differ in length by 3/4-

in. because they fold underneath stacked blocks of different thicknesses.

Rails D and E require a bit more tablesaw work. Cut grooves in both rails for the threaded rod (Photo 3, page 78). You can use a dado set or make multiple cuts with a standard blade. Then create a flat surface for the T-style knobs to bear against (Detail 1, page 77)

with a crosscut on the tablesaw. Attach a tall backer board to your miter gauge and stand the rails on edge to make these cuts perfectly straight and square. Cut the arches in the rails with a jigsaw.

Keep the jigsaw handy. Cut three clearance holes, one in the edge of Rail E and two in End Panel B (Fig. A). The holes allow all the parts of this table to fold flat.

Making the Locking Bolts

Four stout bolts with T-handles lock this table together. Cut the bolts to length from threaded rod. Sitting in the groove, with the handle attached, the bolts must stick out about 5/8-in. beyond the end of the rail (Detail 1, at right).

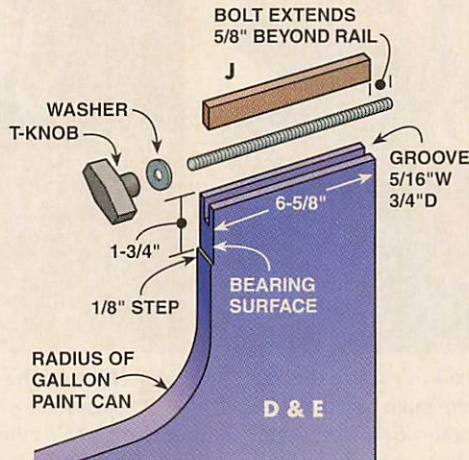
Glue a T-handle onto each threaded rod with epoxy or a special permanent glue made for nuts and bolts, such as Loctite or Thread Locker (available at hardware and auto stores for about \$2.50 a tube). Heavily round the other end of the bolt with a file or grinder so it easily engages the T-nut.

Place the bolts and washers in the rail's grooves. The bolts are held in place by small strips of hardwood cut to fit the groove (Fillers J, Detail 1, above right). Glue in the fillers. With a clamp or two, squeeze down on the fillers so they bite into the screw's threads a bit. When the glue is dry, the bolts shouldn't slide freely (or they'll fall out when you fold up the table!). Dab a little grease onto the bolts to make them turn easier.

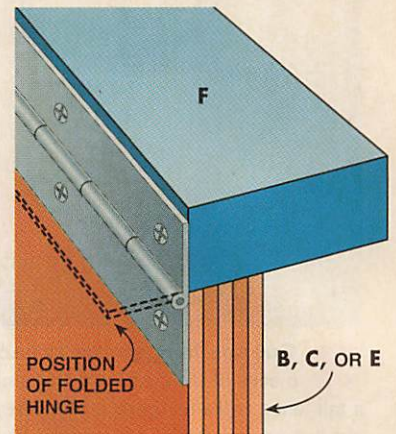
Cut and drill four plywood blocks to receive T-nuts (Parts H, Detail 2, at right). Pound in the T-nuts and clear the deck for assembling the table. All the parts are now cut to size and ready to go.

Attach three of the hinges to three of the six hardwood Riser Blocks F (Photo 4, page 78 and Detail 3, above right). Attach a hinge to Rail D as well (Detail 4, above right). Toss the screws that come with the continuous hinges. They're too short and fragile. Use the larger screws included in the Shopping List, page 79. Don't bother to countersink deeper holes in the hinges for these screws. The heads don't show, so it's not worth the trouble.

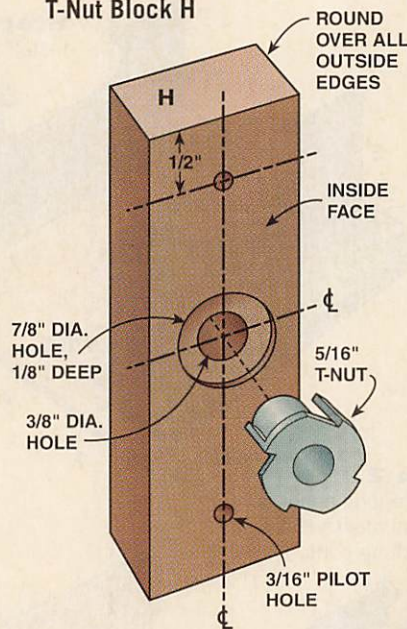
Detail 1 End of Rails D and E



Detail 3 Location of Hinge on Rail E and End Panels B and C



Detail 2 T-Nut Block H



Detail 4 Location of Hinge on Rail D

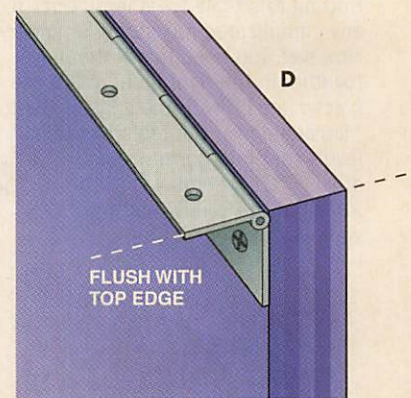
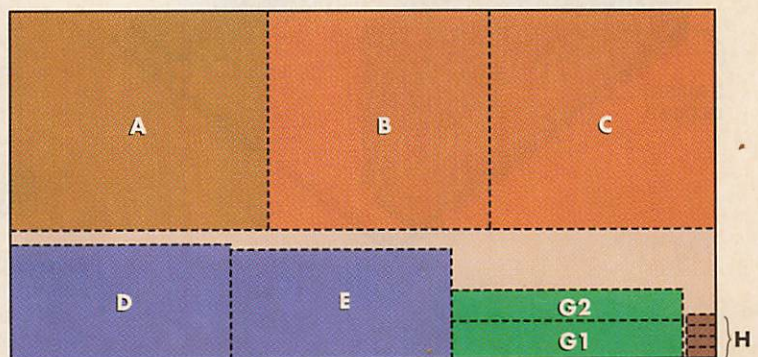


Fig. B Plywood Cutting Diagram

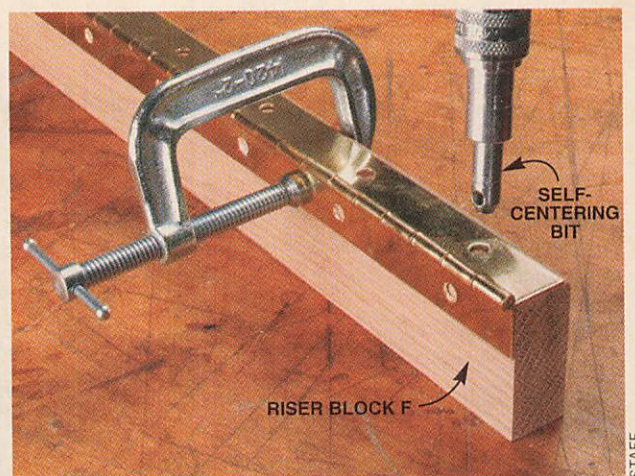
We've maxed out one sheet of birch plywood to make this shop table as large as possible. Making the largest pieces (A, B and C) requires only three cuts. Rip the full sheet first, then crosscut twice to exact length.



Folding Shop Table



3 Cut one long groove in each rail to receive the four pieces of threaded rod that hold the table together. Use a tall fence and a featherboard to steady the workpiece. Then, cut out an arch in the rail so your hands have room to turn the knobs on the threaded rods.

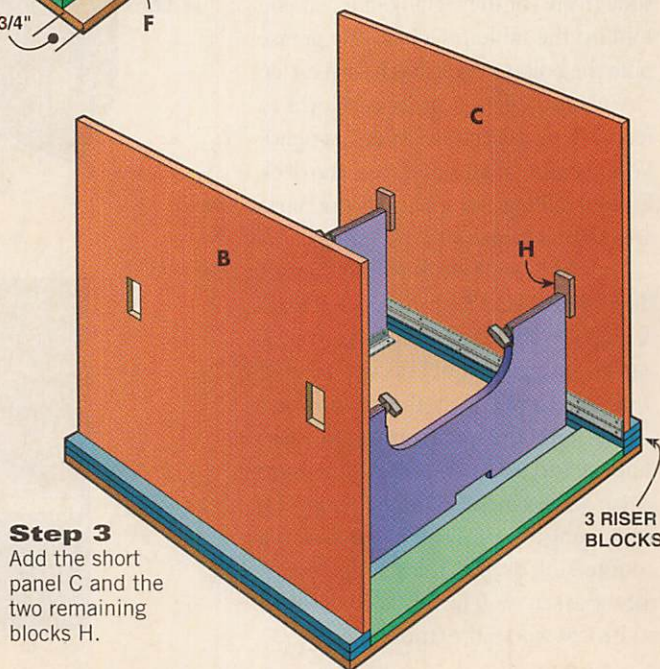
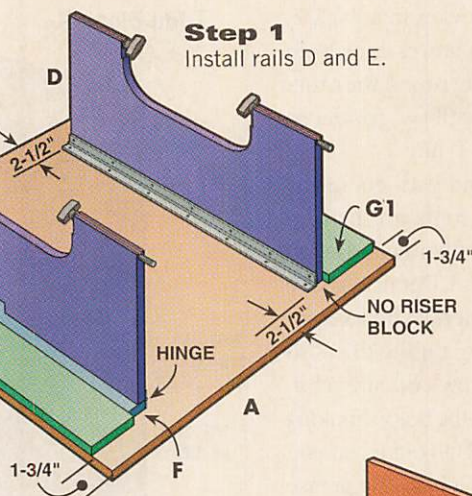
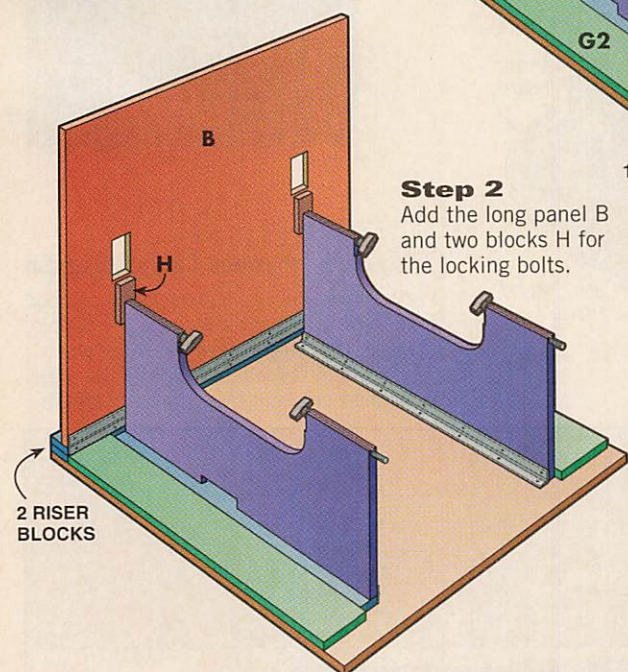


4 Mount the hinges before assembling the table. Positioning the hinges is critically important, but easy to do. Simply fold a hinge over one of the hardwood riser blocks and clamp it in place. Drill pilot holes with a self-centering bit. Drive in the screws, unfold the hinge and you're good to go.

Fig. C Three Assembly Steps

Putting this table together doesn't require any complicated measuring or joinery. However, you need to put the pieces together in the right order. All of the pieces line up with the edge of the top.

Upside down, the table has four levels that fold down on each other. Start assembly with the lowest level (Rail D) and work your way up.



Assembly

Put the table together in three stages (Fig. C), upside down, level by level. Test the parts as you go to make sure they fold flat.

Screws alone do a surprisingly good job of aligning the parts and holding this table together. Glue the parts to make the table even stronger.

Step 1. Attach Spacer G1 to the underside of Top A. Butt Rail D to the spacer and screw the hinge to Top A.

Screw Spacer G2 to the top. Butt one Riser Block F with an attached hinge to the spacer and screw the riser block to the top. Clamp Rail E to the hinge and screw the hinge to the rail.

Step 2. Attach a Riser Block F (with no hinge attached) flush with the left side of the table. Screw another Riser Block F (with a hinge attached) on top of it. Attach End Panel B to the hinge.

Thread two T-Nut Blocks H onto the bolts in Rail D and Rail E. Be sure the T-nut faces out (Fig. A, page 76). Screw the T-nut blocks onto the end panel (Photo 5).

Step 3. Attach the remaining two Riser Blocks F (without hinges) flush with the right side of the table. Stack the third riser block (with a hinge attached) on top. Attach End Panel C to the hinge. Attach the T-nut blocks the same as before. Glue on the Legs K1 and K2. (Note that they go on the inside of Panel B and the outside of Panel C; see Fig. A page 76.) Glue on the Feet L and attach the handle.

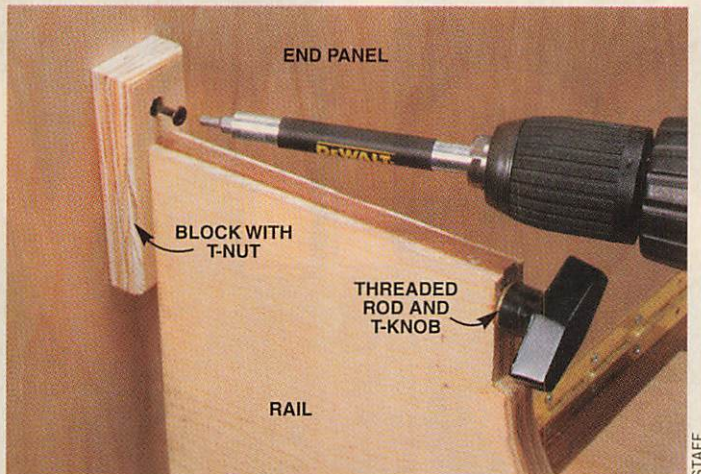
Once the table is assembled, round over all the edges with sandpaper, a file, or better yet, a 3/16-in. round-over bit in a router. To keep the table from rocking on an uneven floor, insert 1/4-in. T-nuts and bolts into the ends of the plywood panels as very simple and easy-to-adjust levelers. **AW**

Shopping List

- 1 4' x 8' sheet birch plywood
- 16 Lineal feet 3/4" x 1-3/4" hardwood
- 12 Lineal feet 3/4" x 3" hardwood
- 4 T-knobs, 5/16" thread
- 1 5/16" threaded rod, 36" long
- 4 5/16" T-nuts
- 4 1/4" T-nuts
- 4 1/4" x 1" hex-head bolts
- 4 5/16" I.D., 3/4" O.D. washers
- 4 Continuous hinges, 1-1/2"W, 30"L
- 100 1/2" #6 FH sheet metal screws
- 25 1-1/4" #8 FH screws
- 1 Handle (large)
- Thread-locking glue for rods

Sources

See page 108



5 Lock the table together with bolts and T-nuts. The T-nuts are buried in wood blocks that are screwed to the table's end panels. Locating the blocks in exactly the right spot is easy. Step 1. Thread the blocks onto the threaded rod buried in the rail. Step 2. Swing the rail upright. Then drive a screw through the T-nut block and into the end panel. Step 3. Unthread the bolt from the T-nut block. Fold the rail down and out of the way. Then drive in the bottom screw through the T-nut block.

You can build this workhorse in a day, using little more than a tablesaw, jigsaw, hacksaw and a drill.

CUTTING LIST

Overall Dimensions: 34"H x 35"W x 30"D

Part	Name	Qty.	Material	Width	Length
A	Top	1	3/4" plywood	30"	35"
B	Long End Panel	1	"	30"	30-3/4"
C	Short End Panel	1	"	30"	30"
D	Rail	1	"	16"	30"
E	Rail	1	"	15-1/4"	30"
F	Riser Blocks	6	3/4" solid wood	1-3/4"	30"
G1	Wide Spacer	1	3/4" plywood	5-1/4"	31-1/2"
G2	Narrow Spacer	1	3/4" plywood	4-1/4"	31-1/2"
H	T-Nut Blocks	4	3/4" plywood	1-1/2"	4"
J	Fillers	4	5/16" solid wood	1/2"	6-5/8"
K1	Legs	2	3/4" solid wood	3"	30-5/16"
K2	Legs	2	3/4" solid wood	3"	30-3/8"
L	Feet	4	3/4" solid wood	3/8"	2"
M	Rods	4	5/16" threaded rod		8"
N	Handle	1			

Classic Jewelry Box

Is there someone important in your life who's tired of the junk-drawer approach to storing jewelry? Before you buy them another pair of earrings, build this classic jewelry box and give them a special place for jewelry, treasured mementos, photographs, stationary—whatever. Build it and they will fill it.

Design Features

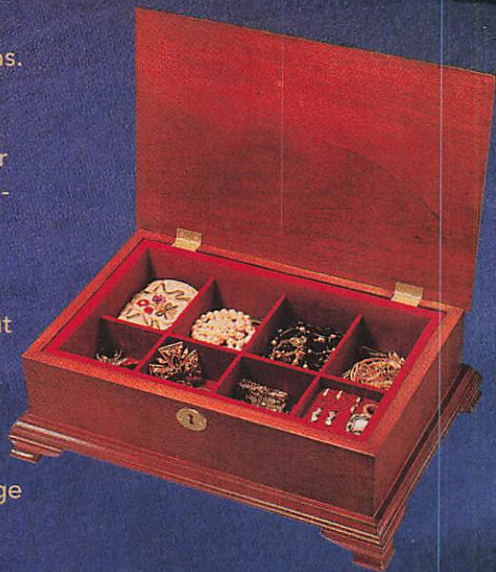
There's a lot to this little box. We've featured:

- A traditional design, made from mahogany for a rich, classic look.
- Easy-to-make custom moldings that no off-the-shelf router bit can give you.
- A couple nifty tricks that guarantee perfect miters on the box sides.
- A velvet-lined insert that looks great and is easy to make.
- Versatility. If a jewelry box isn't your thing, how about a keepsake box for special letters, stationary or other heirloom items.

Tools and Materials

To build this box you'll need a tablesaw, a bandsaw or jigsaw, a router in a router table, and a planer. No need to buy router bits with expensive specialty profiles. All you need are 1/2-in. cove and both 1/4-in. and 1/8-in. round-over bits (see Sources, page 108).

Honduras mahogany makes a beautiful, rich-looking jewelry box, and is a perfect choice for this traditional design. Plan on using about 5 bd. ft. (\$45) of 3/4-in. material. The box and insert bottoms are 1/4-in. plywood. Three sheets of self-adhesive velvet (\$25) are used to line the insert. A pair of jewelry box stop hinges (\$20) hold the lid open at 95 degrees. A brass escutcheon (\$6) dresses up the box front. Total cost is \$87. (For Sources, see page 108.) Let's get started.



*Elegant, custom molding profiles
from three basic bits
you probably already own.*



By George Vondriska

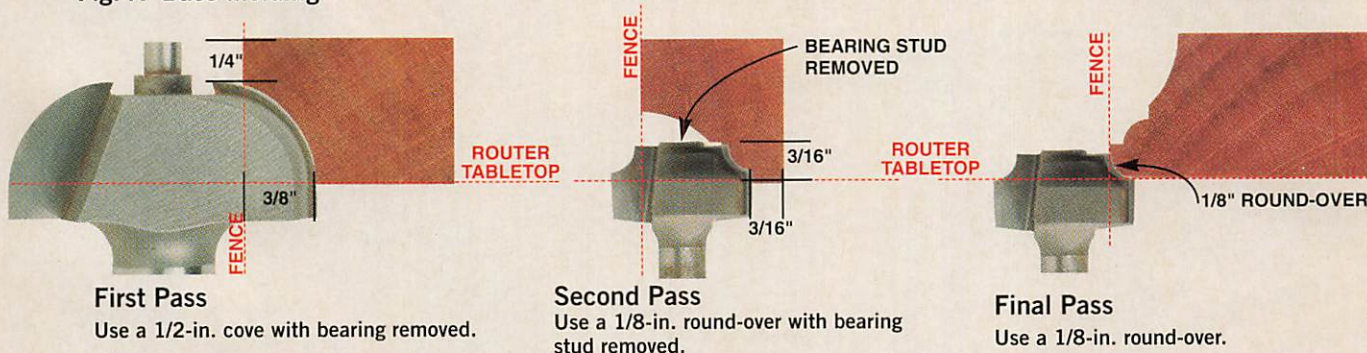
Base Molding

The moldings on the base are made using two basic bits; a 1/2-in. cove and a 1/8-in. round-over. Note: You'll have to remove the bearing stud on the 1/8-in. bit to allow the bit to reach into the cove (see Fig. A). The stud is made of soft metal that can easily be filed off by hand.

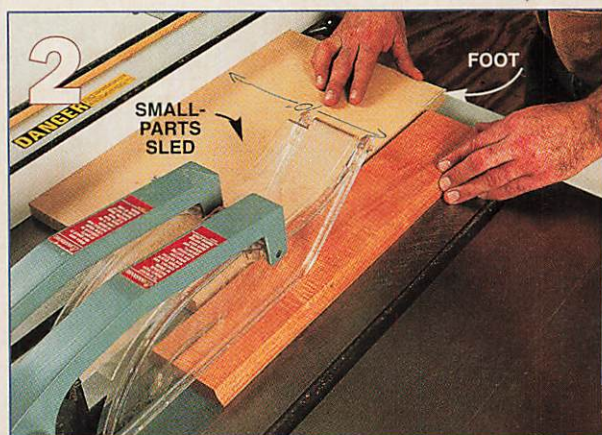


Make the second cut with a 1/8-in. round-over bit and the board held on edge. Set the bit as shown in Fig. A. Note that the bearing must be removed and the bearing stud filed off for clearance.

Fig. A Base Molding



Start with two molding blanks of 4-in. wide x 18-in. long mahogany. Rout both edges of each blank, following the sequence shown in Fig. A and Photo 1. Then, rip the moldings off the blanks (Photo 2).

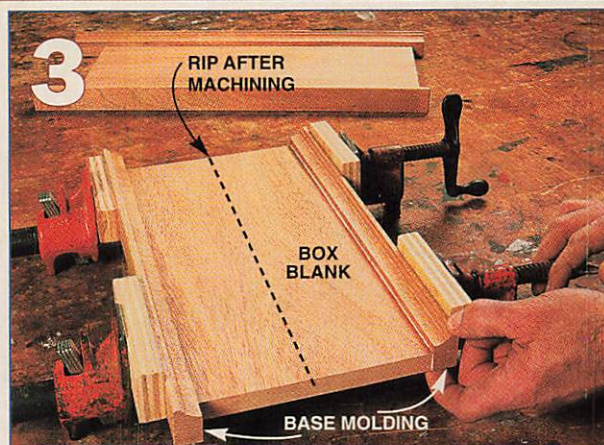


Rip the molding to width using a small-parts sled on the tablesaw. This is a safe way to cut small pieces because it allows you to leave the guard in place. The sled is simply a 10-in.-wide piece of plywood with a foot glued to the back end. The foot catches the end of the material being ripped. Set your fence to 11-1/4 in. (10 in. plus 1-1/4 in. for the molding).

Box Sides

Here's an old trick that guarantees perfect miters by keeping the parallel sides exactly equal in length. Start by making two blanks for the box sides. Each blank should be at least 6-5/8-in. wide with an extra 1/2 in. on the finished length. Glue base molding to both edges of each blank (Photo 3). Cut the miters and spline grooves in each blank (Photos 4 and 5). Rip the two blanks to finished width. Plow a dado for the box bottom (Photo 6) and notch the back for the hinges (Photo 7).

Make the splines by planing down stock to fit the saw kerf. Rip the splines from the planed stock (Photo 8). Now you're ready to glue up the box (Photo 9).

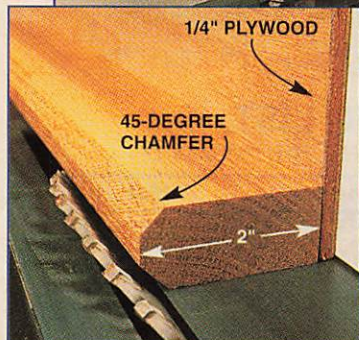


Glue the base molding to both edges of the box blanks. Be certain the bottom of the molding and the bottom of the blanks are flush. The box blanks are ripped into two equal-length sides after the miters and spline kerfs are cut in the ends (Photos 4 and 5).

Box Sides



Miter the box blanks to length. A sacrificial fence on the miter gauge prevents splintering and acts as a line-of-cut indicator. Just align the cutline on the board with the kerf in the fence. Miter some scrap pieces to use for test cuts when splining.



Build a kerfing jig with 1/4-in. plywood and 3/4-in. hardwood. The 45-degree chamfer supports the mitered ends of the box while the kerf is cut.

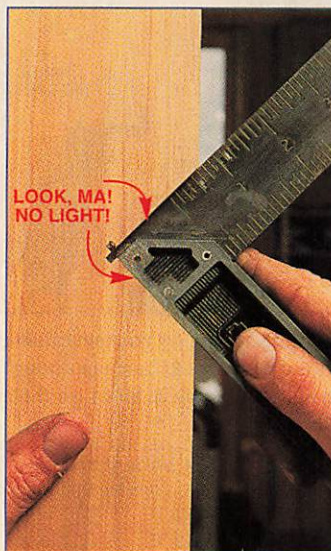
Cut a kerf into the miters on each piece to receive the splines. Use this simple kerfing jig to accommodate the overhanging base molding. Use a push pad, and make test cuts in scrap to get the fence location and blade height right (Fig. C, Detail I).

The blade guard must be removed for this cut. **Be careful.**

Testing Miter Angles

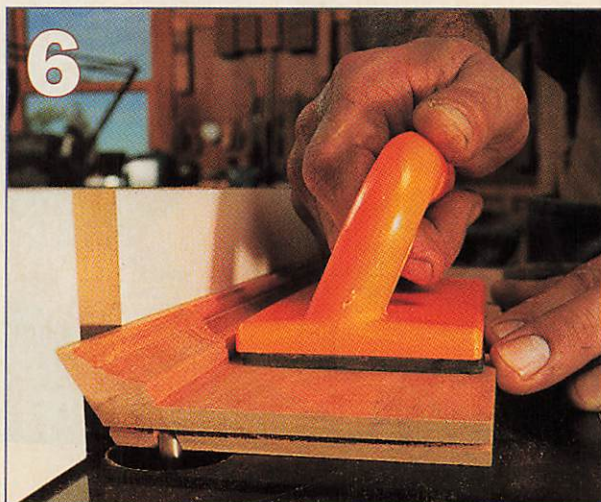
Tight-fitting miters require perfect 45-degree angles. Don't rely on your saw's positive stop. Try this surefire method instead.

Set the blade at 45 degrees and make a cut in a squared-up test board. Then, flip the board around and make a second cut to create a V-shaped notch. Hold the test board up to a light source, and fit a square into the notch. Look for any light between the square and the cuts. If needed, adjust the blade angle until the square nests perfectly in the notch.



The blade guard must be removed for this cut. **Be careful.**

You can't buy an off-the-shelf bit to make these moldings!



Machine a groove in the sides of the box using a dado head or router bit after ripping the blanks to finished width. This groove will house the bottom of the box.

Box Sides

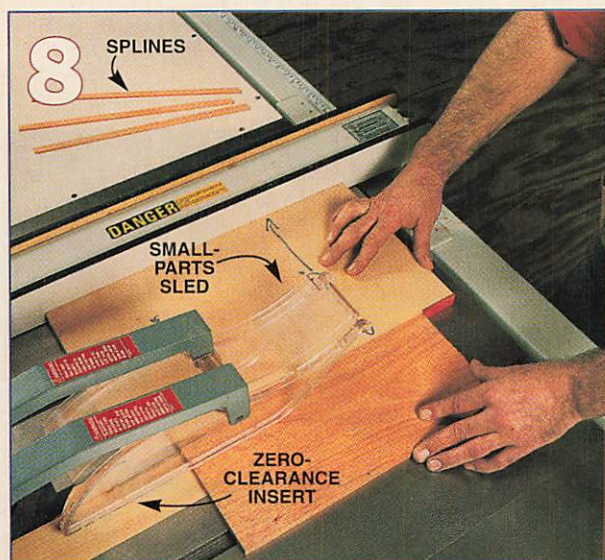


7 Use a dado set or router table to cut the hinge mortises. The mortise should be deep enough to accept both leaves of the hinge. A sacrificial fence on the miter gauge prevents splintering.

The blade guard must be removed for this cut. **Be careful.**

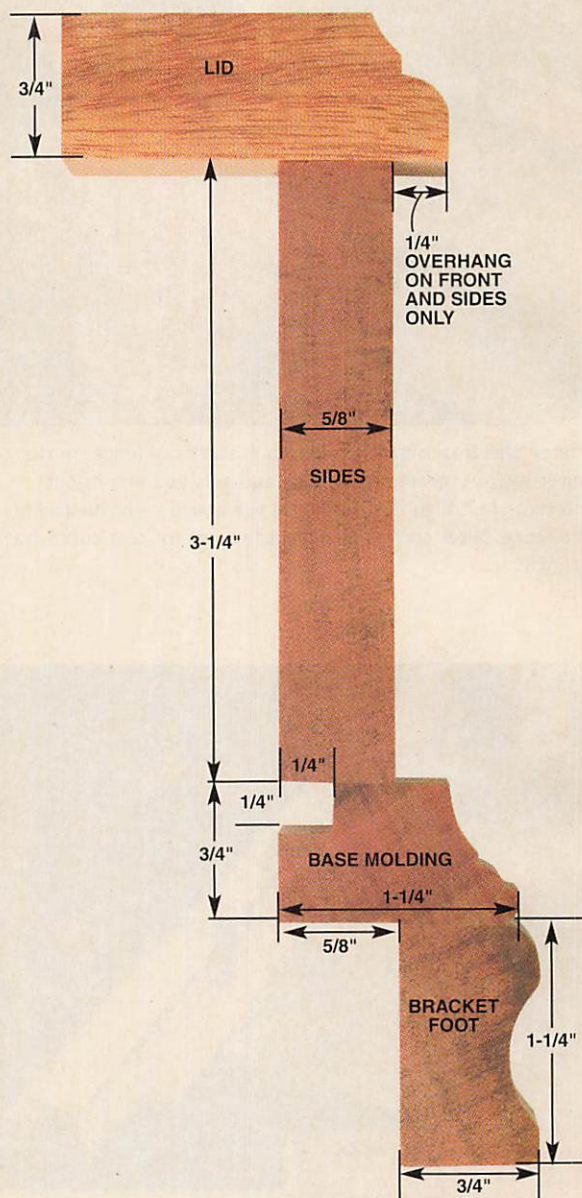
Tip

Glue the moldings to the sides and miter them at the same time. That way they all fit perfectly.



8 Rip spline material using the small-parts sled. A zero-clearance insert in the tablesaw prevents the splines from getting trapped between the blade and the insert opening. Test the fit of the spline, and nudge the rip fence, if necessary. It typically takes some trial and error to get the right fit.

Fig. B
Box Cross Section



CUTTING LIST

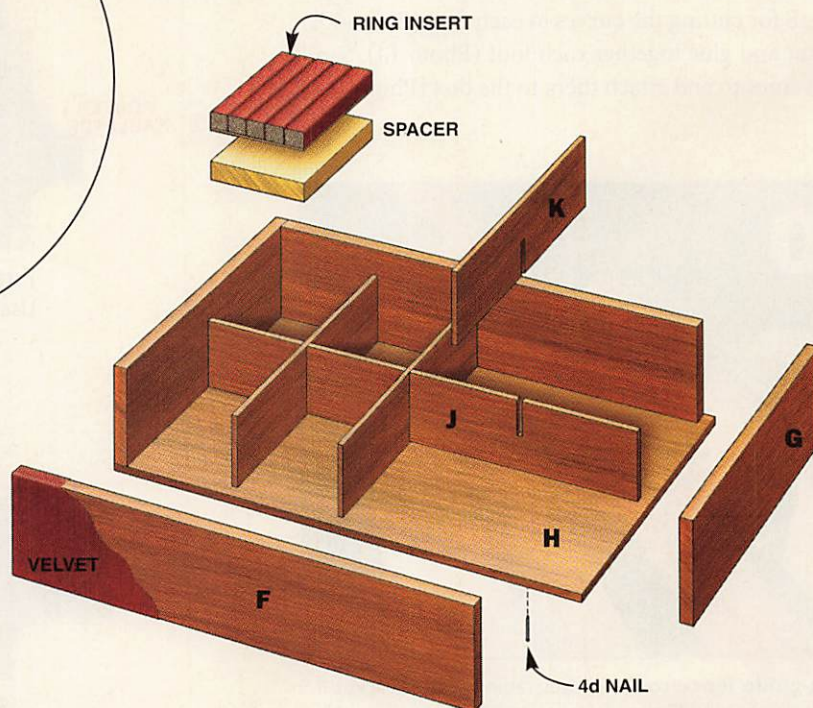
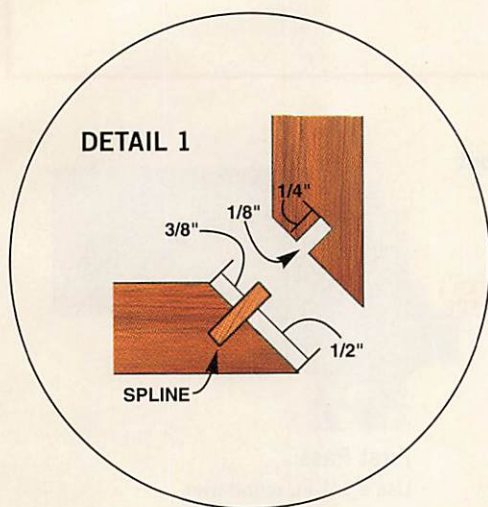
Overall Dimensions: 6"H x 17-1/2"W x 12"D

Part	Name	Qty.	Dimensions	Material
A	Box Lid	1	3/4 x 10-3/4 x 16-1/2	Mahogany
B	Front/Back*	2	5/8 x 4 x 17-1/4	Mahogany
C	Ends*	2	5/8 x 4 x 11-3/4	Mahogany
D	Bracket feet	8	3/4 x 1-1/4 x 2-3/4	Mahogany
E	Bottom	1	1/4 x 9-5/8 x 15-1/8	Plywood
Insert				
F	Front/Back	2	3/8 x 2-7/8 x 14	Hardwood
G	Ends	2	3/8 x 2-7/8 x 9-3/16	Hardwood
H	Bottom	1	1/4 x 9-3/16 x 14-11/16	Plywood
J	Dividers	1	3/32 x 2 x 14	Hardwood
K	Dividers	3	3/32 x 2 x 8-1/2	Hardwood

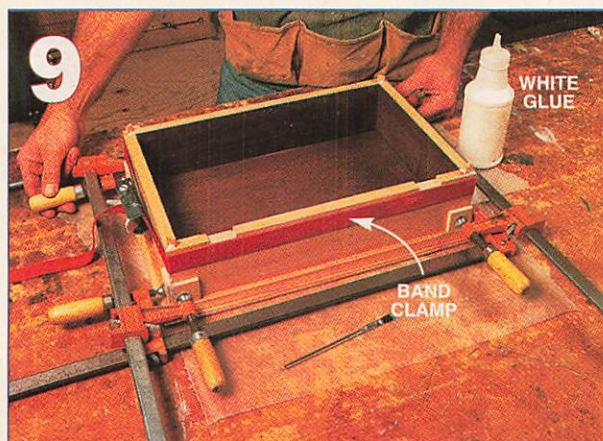
* Dimensions include miters and base molding



Fig. C
Exploded View



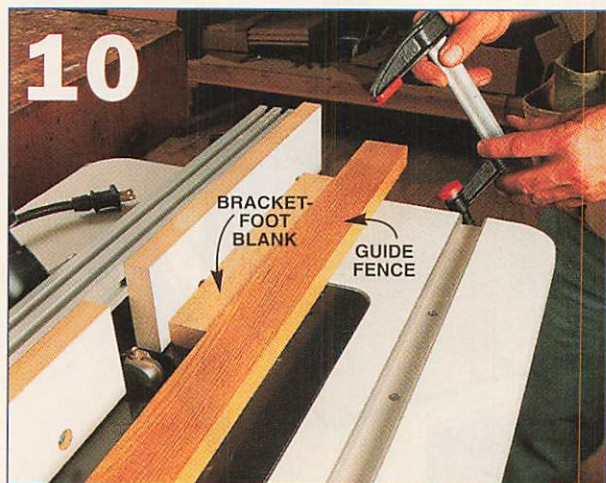
Assembling the Box



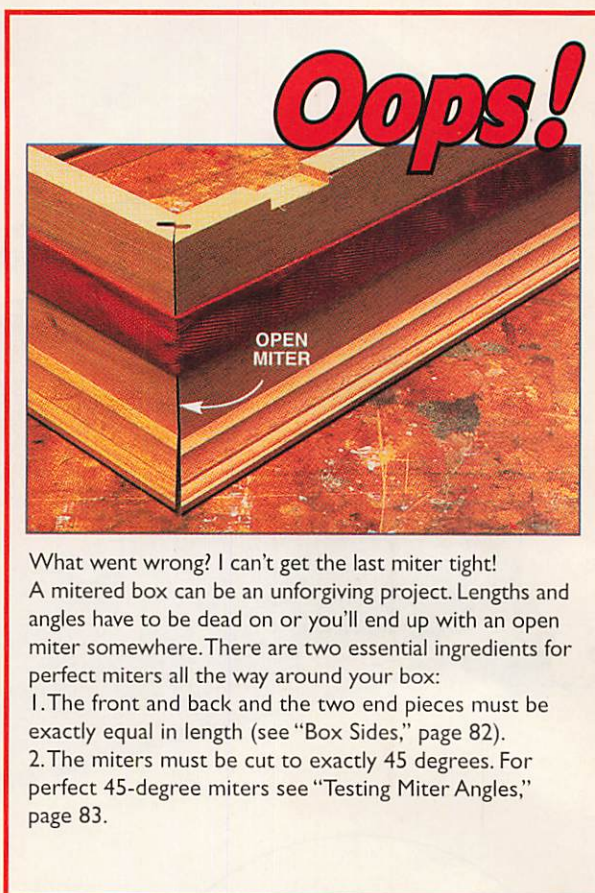
Assemble the box. Use a band clamp to draw the top of the box together. Small bar clamps work best for closing the lower miters. Use white glue for assembly because it spreads easily, and flows into the spline kerfs better and has a longer open time than yellow glue.

Bracket Feet

It's safer and easier to make the bracket feet from four 3/4-in. x 1-1/4-in. x 10-in. blanks. The first pass puts a 1/4-in. round-over on one edge of each blank (Fig. D). For the second pass, chuck a 1/2-in. cove bit into your router. Set the fence and bit height (Fig. D). Rout the coves in each blank using a guide fence (Photos 10 and 11). Cut the miters on each blank (Photo 12). Then, make a template from Fig. E for cutting the curves in each foot (Photo 13.) Finally, cut and glue together each foot (Photo 14). Sand each foot smooth and attach them to the box (Photo 15).



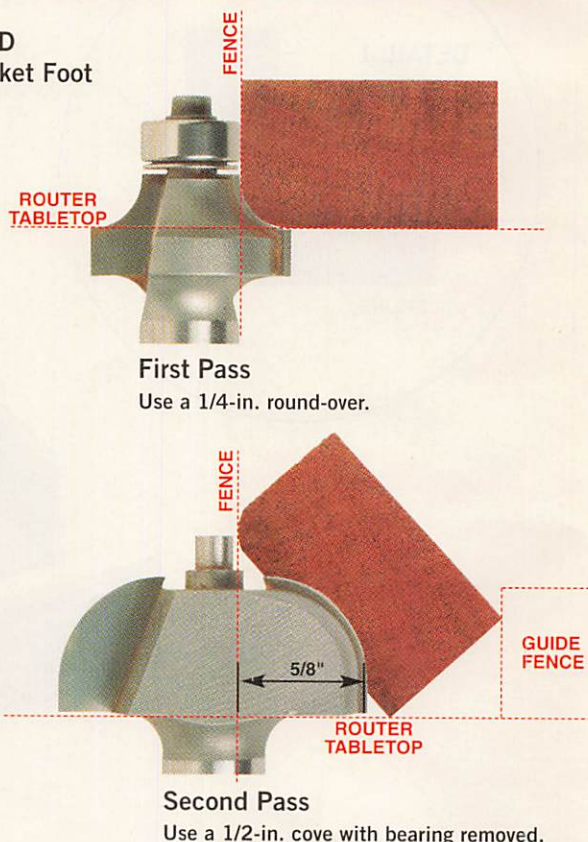
Clamp a guide fence to the router table using a bracket-foot blank as a spacer. The guide fence holds the blank at the correct angle to produce the required cove.



What went wrong? I can't get the last miter tight! A mitered box can be an unforgiving project. Lengths and angles have to be dead on or you'll end up with an open miter somewhere. There are two essential ingredients for perfect miters all the way around your box:

1. The front and back and the two end pieces must be exactly equal in length (see "Box Sides," page 82).
2. The miters must be cut to exactly 45 degrees. For perfect 45-degree miters see "Testing Miter Angles," page 83.

Fig. D
Bracket Foot



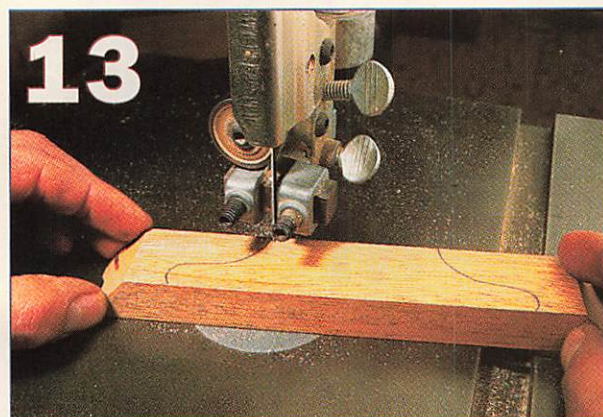
Bracket Feet



Machine the cove into the bracket-foot blanks by angling them between the router-table fence and the guide fence. Use a push stick to maintain pressure on the upper corner of the blank.



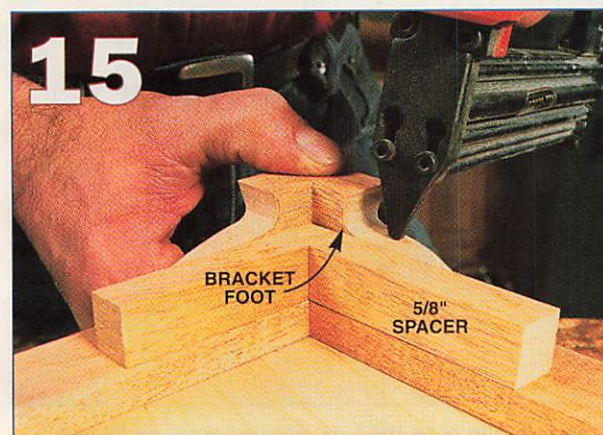
Miter both ends of the bracket-foot blanks.



Cut the bracket-foot curve using a bandsaw or jigsaw. First, make a template from Fig. E to trace the profiles on each blank.



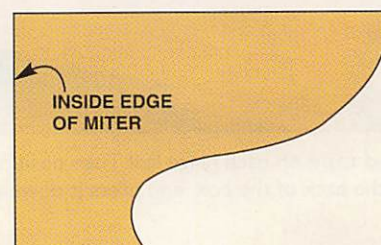
Glue the bracket feet together with yellow glue. Yellow glue sets faster than the white glue used for assembly. Use your hands as clamps. Holding the feet for a minute or so will provide an initial bond. Place the glued-up feet on waxed paper so they won't stick to your bench as the glue dries.



Glue and nail the feet to the box bottom. A couple of 5/8-in.-thick scraps from the box sides make perfect spacers for placing the feet. Mahogany is soft enough to power-nail without splitting. If you're hand nailing, predrill 1/16-in. pilot holes.

Fig. E
Bracket Foot

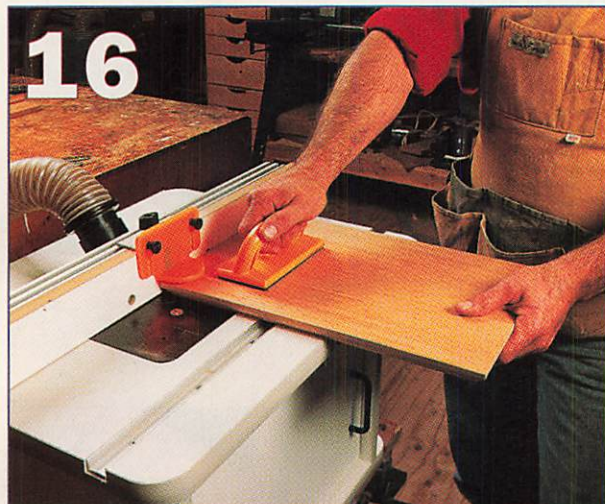
Copy and cut out this full-scale profile to use as a marking template.



The Lid

Cut the lid to its finished size and follow the cutting sequence in Fig. F and Photo 16 to make the edge profile.

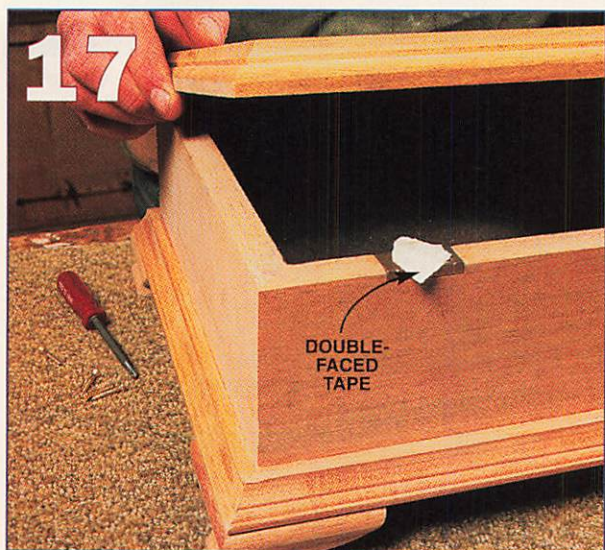
To mount the lid, fasten the hinges to the box. Be sure to predrill the holes and use steel screws at first! Use double-faced tape to position the top (Photos 17 and 18).



Rout the second pass in the lid using the 1/4-in. round-over bit as shown in Fig. F.

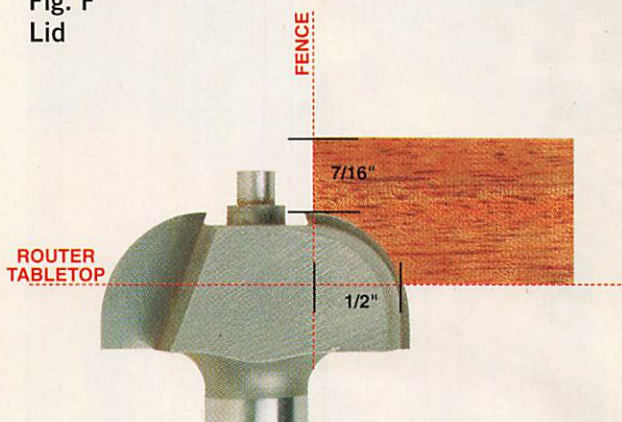
Tip

Make your life easier by prefinishing the box bottom and interiors before assembly.



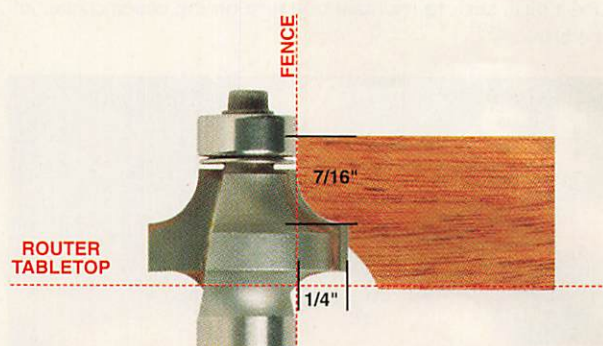
Put double-faced tape on each hinge leaf. Then position the lid flush with the back of the box and press it down on the tape.

Fig. F
Lid



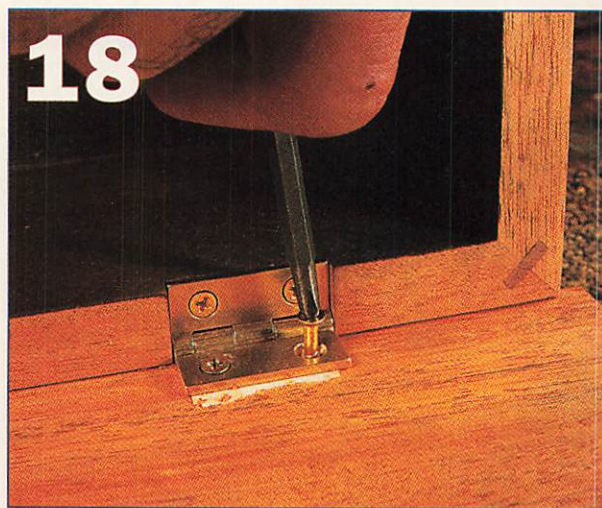
First Pass

Use a 1/2-in. cove with bearing removed.



Second Pass

Use a 1/4-in. round-over.



Carefully flip over the box, with the taped-on lid, and mark the screw locations. Then, predrill and screw the hinges to the lid. Protect the top of the lid with a carpet pad on the bench. Warning! Don't use the screws that come with the hinges. They're too long and will run right through the top! Replace them with #4 x 1/2-in. screws.

atomic breakthrough

Time zone to time zone... never set your watch again

Atomic digital watch keeps absolute time and date accuracy by tuning in to the official time transmitter.

The world has become a smaller place in the past few decades. Transactions take place across the world in an instant. Having a timepiece that can not only keep perfectly accurate time, but keep track of the time zones can be really helpful and convenient. Now there is a watch that scientifically gives you the right time in all zones.

If you travel—this watch is a necessity.

The Atomic Digital Watch from LaCrosse Technology is radio-controlled, maintaining its incredible accuracy by automatically tuning into the official standard frequency and time transmitter in North America. This WWVB radio signal gets its time from the most precise clock in North America based in Colorado, and transmits its signal over a 2000-mile range. The Atomic Digital Watch gives you a selection of 24 time zones, from GMT+12h to GMT-12h with special US time zones displayed with three characters (ATL, EST, CST, MST, PST, ALA, and HAW.) This ultra-accurate radio-controlled timepiece has a perpetual day and date calendar, signal reception indicator and is powered by a 3-v lithium battery expected to last three years.

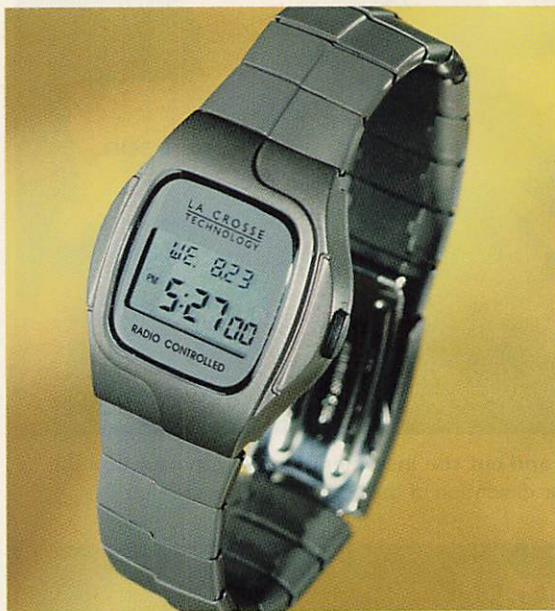
Radio wave technology

A timely gift.

In addition to its accuracy, the watch is water resistant to three bars, or 30 meters, and has a battery-saving "OFF" function. The stainless steel butterfly clasp and removable links to adjust the band size make it a good fit. This watch is a great gift for anyone who values precision and technology.

Does anyone really know what time it is?

Well, the US Government wants to, so they created the National Institute of Standards and Technology, a component of the US Department of Commerce. The Time and Frequency Division, located in Boulder Colorado, maintains the F-1 Fountain Atomic Clock, the nation's standard of time. This clock neither gains nor loses a second in 20 million years. This clock is used to create an international time scale, which NIST distributes through its radio stations. Now, advanced Radio Frequency (RF) technology is featured in a wrist-worn timepiece for use at home, at the office or on the road. This watch is the next best thing to having your own atomic clock, because it automatically displays the



precise accurate time. It never needs to be set, it automatically adjusts itself for daylight savings time and leap years and it features a variety of practical and convenient features to fit your lifestyle.

Try it for yourself...risk-free.

Advances in electronic technology let you get precise timekeeping at an affordable price. Now, thanks to a factory-direct relationship with the manufacturer of the Digital Atomic Watch, you can try it for yourself with TechnoScout's exclusive home trial. If you are not completely satisfied for any reason, simply return it within 30 days for a full "No Questions Asked" refund.

Atomic Digital Watch-Titanium Finish

ZZ-1713 ~~\$69.95~~ \$49.95 + S&H

Please mention color and promotional code 22210.

For fastest service, call toll-free 24 hours a day

800-399-7858



To order by mail with check or money order, or by credit card, please call for total amount plus S&H. To charge it to your credit card, enclose your account number and expiration date. Virginia residents only—please add 4.5% sales tax.

TECHNOScout.com
1998 Ruffin Mill Road
Colonial Heights, VA 23834

Insert and Dividers

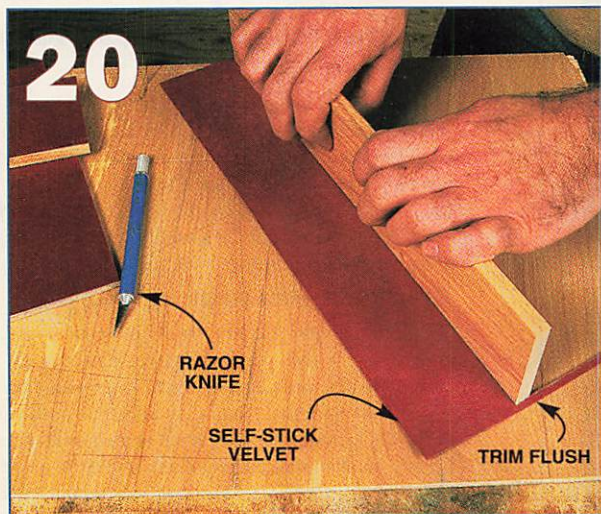
I had enough mahogany left over to make the insert, but any wood will do. Plane the insert stock to 3/8 in. and rip to width. Cut the end pieces to length first (Photo 19). Sand a slight radius on the top edges so the lining will fit better. Then wrap the insert ends with self-stick velvet (Photo 20). Set the wrapped ends in the box and mark the length for the front and back. Cut the front and back 1/16 in. less

than the mark. Wrap the front and back in velvet. Cut and wrap the bottom and assemble the insert (Photo 21).

The internal dividers are held together by half-lap joints. Plane the divider material 1/32-in. narrower than the kerf they fit in to allow for the velvet. Wrap the dividers first, then cut the half-lap kerfs (Photo 22).



19 Mark and cut the insert ends 1/16-in. shorter than the interior dimension of the box, so they can slide in.



20 Wrap the end pieces using self-adhesive velvet (see Sources, page 108). Be certain there aren't any chips or dust on the wood before wrapping. Leave a little overhang on each edge, then carefully cut it off with a razor knife. Press the velvet flat.



21 Hand-nail the insert together with 4d brads. With a brad nailer, it's too easy to blow a nail out through the narrow sides.



22 Cut the internal dividers in a gang to guarantee that the cuts line up. A sacrificial fence on the miter gauge prevents excessive velvet fraying.



To get that deep, rich red-brown color on the mahogany, we used TransTint medium brown dye (see Sources, page

108). Thin and apply the dye according to the directions until the desired shade is achieved. Then, topcoat with spray lacquer. **AW**

Finishing

Sources See page 108

QUESTIONS? CALL 1-800-929-4321. FOR MORE INFORMATION, VISIT US AT WWW.SUNHILLMACHINERY.COM



1-800-929-4321

Call today for your **FREE CATALOG**

ALWAYS YOUR BEST VALUE ON QUALITY WOODWORKING MACHINERY

ONE YEAR WARRANTY ON ALL MACHINES • TOLL-FREE ORDERING • FRIENDLY CUSTOMER SERVICE • KNOWLEDGEABLE TECHNICAL ASSISTANCE • LOW SHIPPING!

LATEST BEST SELLERS:

1/4HP Bandsaw Feeder



PERFECT FOR SMALLER BANDSAWS

- 1/4HP Single phase motor
- 6 feed speeds (4/10/12/18/25/37 fpm)
- Feed roller: 120mm dia. x 25mm width
- Fence: 4"(H)x8"(W)
- 85 lbs. Reg. \$765

AF-16

SALE \$595

3HP 15" Planer w/Stationary Table

- Stationary table for easier depth adjustments and more precise cuts
- Powerful 3HP motor with magnetic/overload switch
- Two speed feed rate: 16 & 20 FPM
- 3 HSS knives
- Capacity: 15"(w) x 6"(h)
- Enclosed lubricated feed-gearing
- Built in mobile base



NEW!

EXCLUSIVE!

Reg. \$1,395

CT-382

SALE \$929

We stock a full range of planers from 12" to 25". Call for more info.

OUR MISSION:
BUILD A BETTER MACHINE,
AND MAKE IT AFFORDABLE

OUR CREED:
QUALITY

HOW DO WE DO IT?
SOLID, INNOVATIVE DESIGN &
CAREFUL QUALITY CONTROL

COMPARE & SAVE!
NO DEALERS!
BUY DIRECT & SAVE!

20" Bandsaw

- 3HP motor
- 32"x21" table
- Max. cutting depth: 11"
- Max. cutting width: 18"
- Blade length: 157"
- Table tilt up to 45° tires

Reg. \$2,195

HB-500R

SALE \$1595



15" Production Wide Belt Sander

- Pneumatic tracking belt oscillation control
- 2,000 units in operation
- Open-end design combined with 16"x48" belt enables sanding of up to 30"

Reg. \$4,250

SDM-15

SALE \$2945



25" Production Wide Belt Sander

Reg. \$6,250

SDS-25

SALE \$4995

SINGLE OR THREE PHASE AVAILABLE



SEE FOR YOURSELF!
CALL TO GET YOUR COPY
OF OUR LATEST CATALOG
FREE!

PROUDLY SERVING
WOODWORKERS SINCE 1979

LEASE FINANCING AVAILABLE

Heavy-Duty 2 Speed Spindle Shaper



- 2-5/8" Spindle travel
- One-piece table: 30" (W) x 27" (D)

Reg. \$1,595

CT-102

SALE \$1095



1HP Hollow Chisel Mortiser

- 1HP, 1Ph, 220V
- Magnetic controls
- Adjustable haunch, length and depth stops
- Chisel stroke: 5"

Reg. \$945

CT-1913

SALE \$699



8"x72" Heavy-Duty Longbed Jointer



- 2HP Single phase motor
- 4 Blade cutterhead

Reg. \$885

CT-204L

SALE \$739



Mini Power Feeder

Reg. \$295

M-3

SALE \$199



108" Edge Sander

Reg. \$1,149

CT-108

SALE \$899

Find full specifications and more sale items at:
WWW.SUNHILLMACHINERY.COM



SUNHILL MACHINERY
1208 Andover Park East
Seattle, WA 98188
1-800-929-4321
Fax: 206-575-3617
email: info@sunhillmachinery.com



Small Shop Tips



Portable Miter Saw Station

I just don't have room in my crowded shop for a permanent miter saw setup. Consequently, I designed this miter saw station to easily knock down when I'm not using it.

I started with an 8-ft. 2x12 that was flat and straight. (A couple of pieces of 3/4-in.-thick plywood glued together would also work.) I routed a groove down the middle of the 2x12 for the metal T-track. Then I screwed my miter saw to a plywood carriage board, which I fastened to the T-track with T-bolts and knobs. This allows me to slide my saw to

either end when cutting long boards. I added two sliding support brackets which are also attached with T-bolts and knobs. The brackets support the ends of my boards when I'm sawing. I added a flip-up stop to each bracket so I can make multiple parts of the same length. When I'm not using my miter saw station, I simply remove the saw and stand the 2x12 on end, secured against a wall. The whole setup cost me about \$50.

James A. Williar

Sources See page 108

"There's nothing to buy. Clean your home for a month on me. Then you decide!"

Introducing my new Oreck XL². It's hotel strong, still only 8 lbs., with an incredible 10-year housing warranty!

David Oreck
CHAIRMAN

Hi, I'm David Oreck. To prove to you that my new, 40th Anniversary 8-lb. Oreck XL² is one of the best investments you can make in home care appliances today—Take the Oreck Challenge.[™] Try my new Oreck XL² in your home for a full month, no charge!

I never put my name on anything that isn't the best. And my 40th Anniversary Oreck XL², with new 24-bar technology, is the best there is. It's built to last twice as long as my previous models. And my previous models have lasted 25 years! Odds are you'd go through three other vacuums in the time you own one Oreck XL². And just wait until you see the beautiful job it does on carpets and bare floors. The Oreck XL² has high-speed roller brushes which whirl at 6,500 rpm to not only remove deeply embedded dirt, but restore the life and luster to your carpets the first time you use it. I guarantee it. The Oreck XL² glides from room to room and up and down stairs, under and around beds and furniture with little effort. Go from thick carpets to bare floors without manual adjustments.

Pick up sand from tile and marble. It's hypo-allergenic, trapping 99.7% of all particles as small as 1/100th the width of a human hair, including mold spores, pollen and pet dander. And the Oreck XL² now features the wraparound ultra-bright Dirt Finder[™] headlight.

While other manufacturers have loaded down their uprights with cumbersome attachments, when you buy my Oreck XL² you get a complete system because I'll give you my Super Compact Canister with 8 attachments, absolutely free with purchase. It's a \$165 value.

Strong Enough To Pick Up A 16-lb. Bowling Ball.[™] It's the perfect above-the-floor vacuum.

My \$165 Super Compact Canister is yours **FREE** with the purchase of an Oreck XL²!

**BONUS
GIFT**

1-800-388-4058 ext. BN936
or visit oreck.com

Or Mail In This Coupon Today

BN936

- ☐ Yes, please call me to arrange a free 30-day home trial of the new Oreck XL². I understand I will receive the \$165 Super Compact Canister free with purchase!
- ☐ Send me a free information kit on the amazing 8-lb. Oreck XL².
- ☐ Include details of Oreck's 12-month Interest Free Payment Plan.

Name _____

Address _____

City _____

State _____

Zip _____

Tel () _____

e-mail _____

optional

ORECK

PBC4R

Nothing gets by an Oreck.[®]

Oreck Direct, LLC 100 Plantation Road, New Orleans, LA 70123



Extended-Reach Drill Table

I use benchtop tools because I have a *small* basement shop. I manage fine most of the time, but every so often I have to improvise. Recently, while building a bed, I ran into a problem. I had to drill into the end of the bed-posts, but they were too long for my benchtop drill press.

I devised this simple way to extend the reach of my drill press from 12 in. to 48 in. Using shelf brackets and a couple of boards, I made an adjustable drill table that attaches to the side of my cabinet. To use it, I loosen the head of my drill press, swing it to the side and retighten it. When I'm done using the shelf, I just remove it, store it away and readjust the head of my drill press.

Travis Larson

Enjoy unlimited opportunity! Be your own boss! BE A HOME INSPECTOR!

Work the Hours You Choose! Make Great Money!

The average home inspection takes only a couple of hours ... and Home Inspectors are earning great money working full-time, or on their own time. According to the U.S. Department of Labor, the median annual income for home inspectors is \$37,500. Ten percent of home inspectors earn over \$61,000!*

No Previous Experience Needed! Start Your Own Business!

Now you can train at home, in your spare time, for a great-paying career or business of your own. Education Direct — the world's leader in at-home training — has specially prepared this program so you can get started fast toward a great future in this booming career field. Home Inspectors are in demand across the country as banks, mortgage companies, and concerned consumers want to know

about a house before they put their money on the line. YOU can be the expert they turn to!

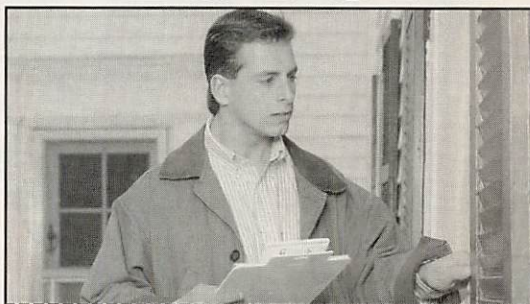
Learn How to Spot Trouble Throughout the Home:

- * WIRING
- * FOUNDATION
- * PLUMBING
- * ROOF
- * WINDOWS
- * INSULATION

Get Valuable Training on Environmental Concerns!

- * INSECT INFESTATION
- * ASBESTOS
- * LEAD

Take advantage of the proven Education Direct "Quick-Learn" method of instruction. Keep your present job while we teach you the skills to get a better one. Everything is explained in plain English. Help is available via a simple, toll-free phone call. There is no better way to get started toward a rewarding future in Home Inspection than with Education Direct!



YES! Tell me how I can train at home in my spare time for a better job, more money, and a new career or business of my own! No obligation. CHECK ONE ONLY!

- | | |
|--|--|
| ☐ 15 HOME INSPECTOR | ☐ 89 Small Engine Repair |
| ☐ 06 Electrician | ☐ 384 Furniture & Cabinet Maker |
| ☐ 27 PC Repair | ☐ 04 Auto Repair Technician |
| ☐ 07 High School | ☐ 54 AutoCAD* |
| ☐ 151 Plumber | ☐ 104 Carpenter |
| ☐ 58 Private Investigator | ☐ 145 Home Remodeling & Repair |
| ☐ 14 Air Conditioning and Refrigeration | ☐ 31 Professional Locksmithing |

Name _____ Age _____
Street _____ Apt.# _____
City/State _____ Zip _____
Phone () _____
E-mail _____

THOMSON
★
EDUCATION DIRECT

Dept. A2PS32S
925 Oak Street
Scranton, PA 18515-0700

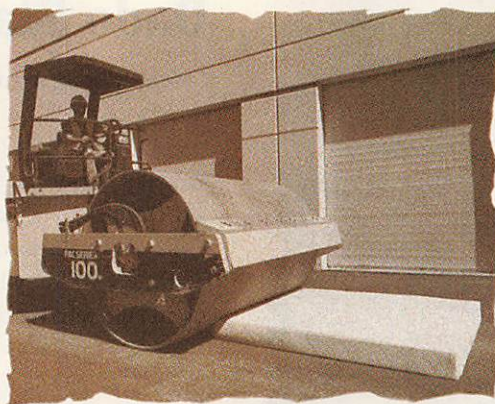
If You Like To Work With Your Hands As Well As Your Head, Send For Free Facts Now! ♦ ♦ ♦

OR CALL
TOLL FREE: **1-800-572-1685** ext. 2690

Call anytime,
24 hours a day,
7 days a week.

Visit our website www.EduDirect-usa.com. Online enter ID# A2PS32S

*All salary information is based on the Occupational Outlook Handbook, a publication of the U.S. Department of Labor. Individual student earnings vary.



Absolutely nothing.

That's exactly what happens to this high-tech Swedish mattress (the heart of our viscoelastic Weightless Sleep System™) when a giant 13-ton steamroller repeatedly runs over it.

Pretty amazing, isn't it? 26,000 lbs. of road-pulverizing force would severely damage *conventional* mattresses. But the revolutionary Tempur-Pedic bed (above) was left *undamaged*—and *undeformed*.

The scientists who developed our state-of-the-art *weightless sleep* technology used NASA's anti-G-force research to invent Tempur® material, a new kind of viscoelastic bedding that *reacts molecularly* to body mass and temperature.

Its pressure-relieving "anti-gravity effect" has billions of microporous memory cells *automatically* contouring to your precise shape and weight—giving your body perfect support.

Consider this: those thick, ornate pads that cover most mattresses are needed to keep the hard steel springs inside. But they create a hammock effect outside that can actually *cause* pressure points. Our molecular springs *gently* mold to your every curve and angle.

Tempur-Pedic's sleep-science achievement is recognized by NASA...cited by

the U.S. Space Foundation...and *certified* by the Space Awareness Alliance. TV, cable, radio, newspapers, and magazines have reported on Tempur-Pedic and given us rave reviews.

Our high-tech Swedish Sleep System™ is extolled, worldwide, by over 25,000 sleep clinics, physicians, and health professionals. In fact, it's the first *really* important new bed since the inner-spring was introduced some 75 years ago.

Small wonder, then, that 3 out of every 4 Tempur-Pedic owners go out of their way to recommend us to close friends and relatives—and 82% tell us "It's the *best bed* I've ever had!"

For a FREE DEMONSTRATION KIT, phone or fax right now. You'll get a sample of Tempur material, a Better Sleep Video, a 16-page Consumer Guide, a duty-free Import Price List, product info—and a FREE 13-WEEK HOME TRYOUT CERTIFICATE.

Makes all other beds obsolete!



Recognized by NASA
Certified by the
Space Foundation.



Colorized to show detail

Tempur® material *molds* to your body!™

AirFlow™ system

Viscoelastic memory cells conform to every curve and angle of your body, ventilating windows dissipate heat.

FREE SAMPLE/FREE VIDEO/FREE INFO

TEMPUR-PEDIC®
PRESSURE RELIEVING
SWEDISH MATTRESS AND PILLOW

1-800-769-6101

CALL TOLL FREE OR SEND FAX TO 1-859-259-9843
Tempur-Pedic, Inc., 1713 Jaggie Fox Way, Lexington, KY 40511



Dado Blade Carrier

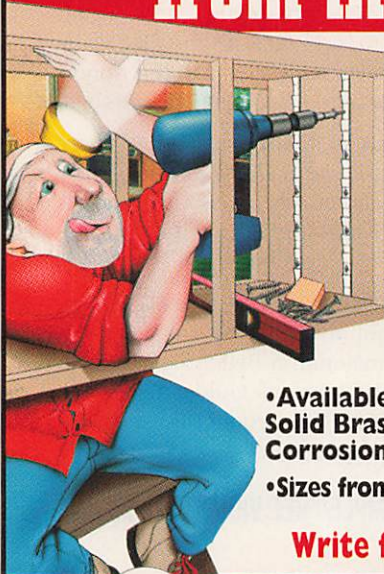
I recently bought a dado blade set and decided right off to build a carrier for it. I designed my carrier with a separate spot for each blade. This makes it easy to access blades individually and keeps the teeth from touching so they don't get chipped. The scoring blades are hung on a 5/8-in. dowel and a 1/2-in. rare-earth magnet holds them securely in place. One thing I like about my design is that there are no nuts to remove or loose parts to misplace. **AW**

Don Dickens

Sources See page 108

If you have an original Small Shop Tip, send it to us with a sketch or photo. We pay \$100 for each one we print. Send to: **Small Shop Tips, American Woodworker, 2915 Commers Drive, Suite 700, Eagan, MN 55121.** Submissions can't be returned and become our property upon acceptance and payment.

Square Drive Screws from the Source



- Square Drive Stops Driver Bit Slippage!
- Hardened Steel for Extra Strength
- Deep Thread for Superior Holding Power



- Available in Stainless Steel, Solid Brass, Plated Steel, Corrosion Resistant and More!
- Sizes from #4 x 3/8" to #14 x 6"

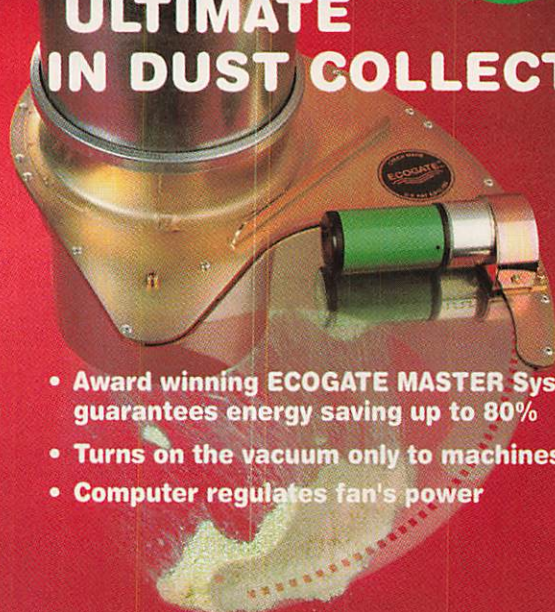
Write for FREE Catalog!

McFEELY'S
SQUARE DRIVE SCREWS

PO Box 11169 • Dept WWJ • Lynchburg • VA • 24506
Toll Free 1-800-443-7937 or at www.mcfeelys.com

ECOGATE®

**ULTIMATE
IN DUST COLLECTING**



- Award winning ECOGATE MASTER System guarantees energy saving up to 80%
- Turns on the vacuum only to machines in use
- Computer regulates fan's power

Call 1-888-ECOGATE
for free brochure.
www.ecogate.com

Eliminate 99% of potentially hazardous airborne dust!



Oneida Air dust collectors capture nearly 100% of the most harmful dust particles.

- 99% filtration efficiency with .2 - 2.0 micron test material
- Features internal filter cartridge - compact and space efficient
- Flexible design options - perfect for the small shop
- Engineered ductwork design & parts list provided
- 2001 American Woodworker Editors' Choice Award Winner - "The Oneida is the *only* machine that seems to do everything right."

There really is a difference in my shop's air quality. The new filter system takes up less space and is much quieter. And in addition to its effectiveness, maintenance is easier too!
D.K., Rockville, MD (2 hp model owner)

**Call now for more information
and let us design a dust collection
system to fit your needs.**



**1-800-732-4065
www.oneida-air.com**

1001 W. Fayette St., Syracuse, NY 13204

Dust collection systems & components 1.5 hp & larger.

Get Rid of Your Gutters!

RAINHANDLER®

Self-Cleans.

Unique louver design allows leaves and debris to blow or wash away.

Protects Property.

The Rainhandler self-cleaning system eliminates clogged, overflowing gutters and downspouts. No ground erosion.

No more destructive ice dams from frozen gutters.

Protects You.

The Rainhandler self-cleaning system protects you from the need to climb ladders and roofs to clean clogged gutters.

Prevents Erosion.

Rainoff is converted to a 2 to 3 foot wide band of soft rain-sized droplets sprinkling the landscaping.

Maintains Itself.

The all-aluminum, never-rusting, maintenance-free Rainhandler louvers make messy, deteriorating gutters and downspouts history.

Beautifies.

The Rainhandler system is practically invisible. No gutters, downspouts, leaders or splash blocks to detract from the natural beauty of your home.

Installs Easily.

Each 5-foot section comes with 3 brackets & 6 screws. Do your entire home in 3 or 4 hours.

Guarantees.

Rainhandler comes with a 25-year manufacturer's warranty. Performance satisfaction is guaranteed for one full year.

Phone or Write for **FREE** Information

RAINHANDLER

from Savetime Corp.

Dept. AW0302

2710 North Avenue/Bridgeport, CT 06604

1-800-942-3004/Fax 1-800-606-2028

Name

Address

City State

Zip Phone ()

www.rainhandler.com

**Proud to be
AMERICAN**

**Over 650
Different
Professional Quality
Router Bits...**

**FREE
WOODWORKING
CATALOG**

Largest selection of the best made bits in America plus 100's of unique, hard-to-find tools and accessories. Get your copy today!

**EAGLE
AMERICA**

P.O. Box 1099
Chardon, OH 44024

All Made in the U.S.A.

800-872-2511

Shop with us 24/7
Sign up for email updates and web specials!
www.eagle-america.com

AD CODE AW 0203

OSBORNE 
Wood Products, Inc.

Island Inspired...

In addition to a complete line of table legs and wood turnings, Osborne Wood Products, Inc. offers an impressive line-up of kitchen island legs.

www.osbornewood.com



8116 Highway 123 North • Toccoa, GA 30577
Call for a catalog: 1-800-746-3233
Order line: 1-800-849-8876 • Español: 1-877-445-6034

#1 Rated Drum Sander by Independent Experts!



**FREE 30-Day
Trial!**

**5-YEAR
Warranty**

**Prouder Than
Ever to be
Made in America!**

*Wide Belt Performance
...at About 1/3 the Cost!*

Call today for a FREE report on why Woodmaster's Drum Sander was voted "tops" by *Fine Woodworking Magazine* vs. Performax®, Grizzly®, etc. See how a Woodmaster can cut your sanding time by up to 90%!

Now, our line of 26" and 38" drum sanders includes a new 50" model. These commercial-duty sanders fill the niche between slow hand methods and extensive wide-belt sanders...at about one third the cost. And there's no sacrifice in quality.

Call today and we'll give you the names of Woodmaster owners near you. This way, you can find out, first hand, how a Woodmaster might be just the machine you've been looking for.

Call Today for Free Facts

1-800-821-6651 ext. DB71

Woodmaster Tools, Inc.

1431 N. Topping Ave., Dept. DB71, Kansas City, MO 64120

**Trade in your
coat & tie
for a shop apron.**

Call us, we'll tell you how!



**Woodcraft
Franchises
Available!**

*Premium locations
are limited!*

Please contact:

Bill Carroll

Director of Franchise Operations
Woodcraft Franchise Corp.

304-422-5412

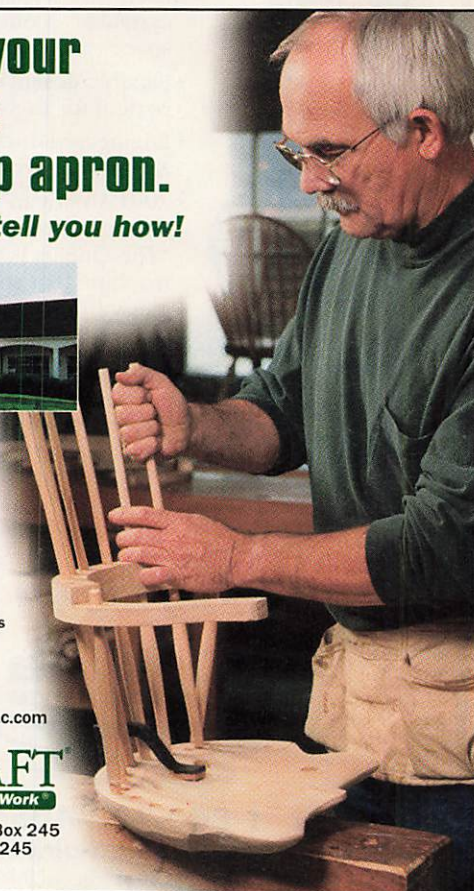
or e-mail:

bill_carroll@woodcraft.sbrinc.com

WOODCRAFT
Helping You Make Wood Work

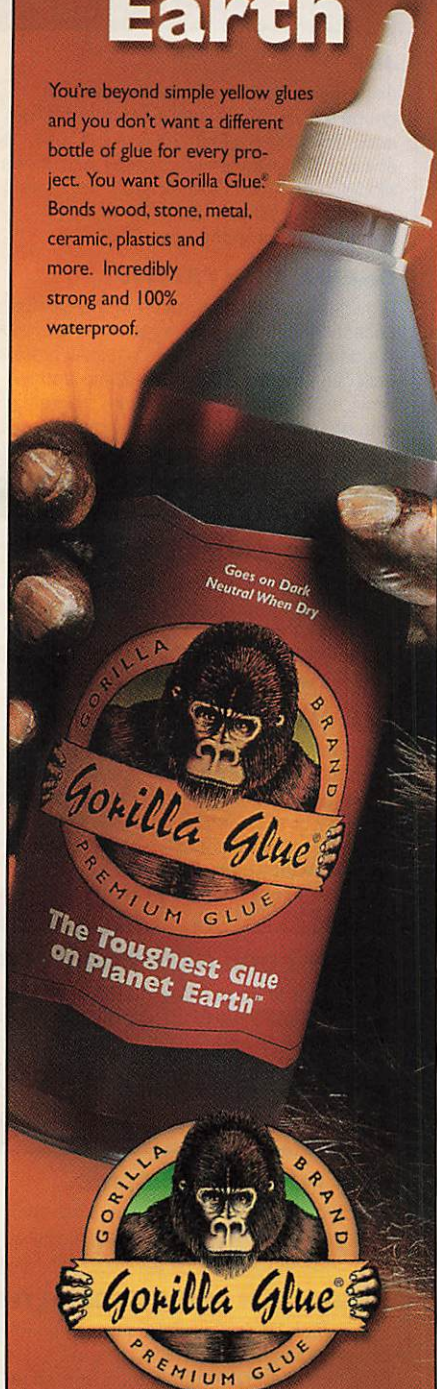
5300 Briscoe Road, P.O. Box 245
Parkersburg, WV 26102-0245

F02WA04Q



The Toughest Glue On Planet Earth

You're beyond simple yellow glues and you don't want a different bottle of glue for every project. You want Gorilla Glue®. Bonds wood, stone, metal, ceramic, plastics and more. Incredibly strong and 100% waterproof.



for retailers near you:
www.gorillaglu.com
1-800-966-3458

SHOP TOUGH TOOL SMART



©2001 Waterloo Industries, Inc., Waterloo, Iowa

From classic steel tool chests and workbenches to mobile project centers and portables, Waterloo® tool storage is rugged and versatile. With smart features like small parts bins, peg hook storage, and work surfaces that make jobs easier. Waterloo® is perfect for today's tools, and since it's built to last, you'll enjoy your Waterloo® storage for many tomorrows.

WATERLOO®
Shop Tough, Tool Smart.

www.waterlooindustries.com
1-800-455-0525

You Can Save Up To 50% On Home Heating Cost And never have to buy fuel, wood, oil, gas, kerosene ever again.

REPLACE OLD & INEFFICIENT HEAT

Hydro-Sil is a unique zone heating system that can save you hundreds of dollars in home heating costs. It can replace or supplement your electric heat, oil or gas furnace. Your kerosene heaters and woodstoves.

Your benefits with Hydro-Sil

- Slash Heating Cost - Up to 50%
- Lifetime Warranty - no service calls
- Safe for children & furniture
- Clean - no fumes - no smoke
- U.L. Listed
- Preassembled - ready to use
- No furnaces - ducts - chimney
- Portable (110V) or permanent (220V)
- Whole House Heating or Single Room
- Room by Room Control

Hydro-Sil works like this: inside the heater case is a sealed copper tube filled with a harmless silicone fluid that will never spill, leak, boil or freeze. It's permanent. You'll never run out. Running through the liquid is a hydroelectric element that, when the thermostat is turned on, quickly warms the liquid. The silicone liquid with its heat retention qualities continues to heat after the Hydro element shuts off, saving you money. The heat radiating from the tube is directed into a gentle convection flow that delivers warm, comfortable heat into the room. It's just that simple. The principle is the same as hot water heating and provides the same benefits.

www.hydrosil.com

Credit Orders-Toll Free
1-800-627-9276 (M/C-VISA)
Or Mail Check To: **Hydro-Sil**
PO Box 662, Fort Mill, SC 29715

SEASONAL DISCOUNT FACTORY SALE



LIFETIME WARRANTY-U.L. LISTED

TWO MODELS TO CHOOSE FROM:
PORTABLE 110 V or PERMANENT 220 V

220 Volt Permanent	Approx. Area To Heat	Discount Price	Quantity
8' 2000 watts	300 sq. ft.	\$259	
6' 1500 watts	250 sq. ft.	\$239	
5' 1250 watts	200 sq. ft.	\$219	
4' 1000 watts	175 sq. ft.	\$199	
3' 750 watts	150 sq. ft.	\$179	
2' 500 watts	100 sq. ft.	\$169	
Thermostats - CALL for options			
Portables (110V) Thermostat Included			
5' Hydro-Max 750-1500 watts		\$219	
4' Convector - Dual watt		\$179	
3' 750 watts - Silicone		\$169	
\$15.00 shipping per heater		\$	
Total Amount		\$	

Acct. No. _____ Ex. _____
Name _____
Address _____
Phone _____

AMERICAN WOODWORKER®

FREE PRODUCT INFORMATION

BITS, BLADES & CUTTING TOOLS

ANDREWS TOOL WORKS

Provider of cutting tools and accessories to DIY and professional woodworkers. With a corporate commitment to superior engineering and a dedication to affordable quality, the products provided by Andrews Toolworks are truly world class. For more information, call 800-821-8378 or visit www.routerbitsonline.com. Circle 1.

EAGLE AMERICA

"The catalog for quality minded woodworkers." Our catalog displays the industry's largest selection of over 650 American made professional quality router bits. The secure web site allows convenient purchasing 24/7. For more information, call 800-872-2511 or visit www.Eagle-America.com. Circle 2.

FREUD, INC.

Freud Router Bits - This 84-page, full-color catalog includes detailed information on Freud's extensive selection of high quality router bits and sets. For more information, call 800-334-4107 or visit www.freudinc.com. Circle 3.

LIBRAWOOD

The best prices on the best tools, "Whiteside" Router Bits, "Forrest" Sawblades, "Forest City" Drill Bits and Hollow Mortise Chisels, "Magna" Sawblades, "Jet", "Powermatic" and "Performax" Tools. For more information, call 716-881-5661 or visit www.librawood.com. Circle 4.

MACHINE TOOL CAMP

Build your own CNC Router for less money. Our engineering package is packed with simple instructions, color photos, and illustrations to walk you through the entire process! Circle 5.

MLCS

Huge selection of carbide-tipped router bits and boxed sets, raised panel door sets, shaper cutters, solid carbide bits, forstner bits, plus our unique line of clamps, tools & supplies. Free shipping, excellent quality guaranteed. For more information, call 800-533-9298 or visit www.mlcswoodworking.com. Circle 6.

OLDHAM MANUFACTURING

Oldham manufactures full lines of circular saw blades and premium carbide Viper router bits for DIY consumers, contractors and woodworkers. For more information, call 800-828-9000 or visit www.oldham-usa.com. Circle 7.

PRICE CUTTER

"The Woodworkers' Best Value." A large selection of router bits and woodworking accessories. If you're looking to cut costs without cutting quality, look no further. Many

close-outs at unbelievable prices. For more information, call 888-288-2487 or visit www.PriceCutter.com. Circle 8.

TECH MARK, INC.

Rojeck European Woodworking Machinery. A full line of sliding table saws, combination machines, planers, jointers, shapers, and slot mortisers. For more information, call 800-787-6747 or visit our website at www.tech-mark.com. Circle 9.

TIMBER WOLF BANDS

Timber Wolf Saw Blades, Low Tension, Swedish Silicon Steel, Available 1/8" thru 2". For more information visit www.suffolkmachinery.com. Circle 10.

WOODLINE ARIZONA

Industrial carbide router bits and shaper cutters at the very best prices. 600 items in stock. Ask for our free catalog. For more information, call 800-472-6950 or visit www.woodbits.com. Circle 11.

CATALOGS

A&I SUPPLY

Large selection, very modest pricing, superb service. All UPS orders over \$150 freight-free in continental USA. Free catalog in USA. Circle 12.

ECOGATE

The ultimate in dust collection motorized blast gates extract only from machines in use and electronic controller operates your dust collector. For more information, call 888-ECOGATE or visit www.info@ecogate.com. Circle 13.

GRIZZLY

468-page, free color catalog of over 11,000 woodworking and metal working machines, tools and accessories all at incredible prices! For more information, call 800-523-4777 or visit www.grizzly.com. Circle 14.

JET EQUIPMENT AND TOOLS

JET family brands Performax, Powermatic and JET machinery catalog provides complete information with available accessories. Circle 15.

PACKARD WOODWORKS

Specializes in products for Woodturners. Our 64-page catalog has penmaking supplies, tools, books, videos and much more. For more information call, 800-683-8876 or visit www.packardwoodworks.com. Circle 16.

PERFORMAX

Performax's Drum, Sanding Catalog offers 20 drum sanders with capacities from 16" - 50" with single or dual drums. For more information call 800-274-6848 or visit www.performaxproducts.com. Circle 17.

TOOL CRIB OF THE NORTH

Your free catalog featuring the most popular

name-brand tools at the lowest prices, guaranteed. For more information, call 800-635-5140 or visit www.toolcrib.amazon.com. Circle 18.

DUST COLLECTION

JDS

Accu-miter: The ultimate professional mite gauge for your table saw. Features shot-pin accuracy. JDS Air-Tech 2000: A full line of high efficiency air filtration units for all size shops. Model 750, 8-12, 10-16, & 2400. For more information, call 800-382-2637 or visit www.thejdscompany.com. Circle 19.

ONEIDA AIR SYSTEMS

Provides cost effective, state-of-the-art dust collection technology to woodworking shops. We design and manufacture industrial grade dust collection systems, 1.5 hp to 20 hp and will provide an engineered ductwork diagram along with a complete parts list. For more information, visit www.oneida-air.com. Circle 20.

HAND TOOLS

GROFF & GROFF LUMBER

Supplier of premium grade domestic and imported lumbers. 4/4 through 16/4 thickness. Kiln dried. No orders too large or too small. Shipping anywhere. For more information call 800-342-0001 or email wood4u@epix.net. Circle 21.

LEE VALLEY

The Lee Valley hardware catalog contains over 100 full-color pages displaying a wide selection of interesting and unusual items in a variety of styles from classic to modern. For more information, call 800-871-8158 or visit www.leevalley.com. Circle 22.

LUMBER

SANDY POND HARDWOODS, INC.

Specializes in hand selecting Birdseye Maple, Curly Maple, Flame Birch, Curly Cherry, Quilted Western Maple and Quilted Mahogany for our customers. For more information, visit our web site www.figuredhardwoods.com. Circle 23.

MISCELLANEOUS

F&W PUBLICATIONS, INC.

Check out the only book club exclusively for woodworkers. For more information, visit www.popularwoodworking.com/wwbc. Circle 24.

HOME TECH WOOD SPECIALTIES

Home Tech Wood Specialties has been in business since 1975 specializing in unique, hard to find and affordable tools and accessories for the woodworker. For more information, call 800-456-4987. Circle 25.

FREE PRODUCT INFORMATION!

- Circle the numbers on the Reader Service Card which correspond to the information you wish to receive.
- Then affix postage and mail the attached Reader Service Card.
- You may also mail your requests to: American Woodworker, P.O. Box 5337, Pittsfield, MA 01203-5337.

GET YOUR FREE PRODUCT INFORMATION FASTER ON-LINE!
Visit www.americanwoodworker.com and, click on "Free Product Information."

WOODWORKER'S DISCOUNT BOOKS

Books, plans, videos for woodworkers at all levels and interests...Carving, Turning, Furnituremaking, Homebuilding/design, Toys, Tools and More! For more information, call 800-378-4060. Circle **26**.

POWER TOOLS

CRAFTSMAN TOOLS

Available at Sears and Sears Hardware Stores; or call 800-377-7414 to order your free copy of the "Craftsman Power and Hand Tool" catalog. Visit us on the web at www.sears.com/craftsman. Circle **27**.

DELTA MACHINERY

Manufactures the world's most complete line of woodworking machinery and accessories for use in home workshops and construction trades. For more information, call 800-438-2486 or visit www.deltamachinery.com. Circle **28**.

DEWALT

DeWalt's D51238K 18-gauge pneumatic brad nailer drives 5/8" to 2" nails. Features low-nail indicator, overmolded nose pad, and tool-free depth setting, exhaust and jam clearing. For more information, call 800-433-9258 or visit www.Dewalt.com. Circle **29**.

FEIN POWER TOOLS

For over 130 years Fein has researched and developed better solutions to take the place of time consuming manual labor. Superior quality is in every tool we make. For more information, call 800-441-9878 or visit www.feinus.com. Circle **30**.

LAGUNA TOOLS

Laguna Tools imports the finest woodworking machines into the USA. Machines include bandsaws, combination machines, tablesaws, boring machines and edge banders. For more information, call 800-234-1976 or visit www.lagunatools.com. Circle **31**.

NORWOOD INDUSTRIES INC.

Sawmill \$3,895. All new Super Lumbermate 2000, larger capacities, more options. Manufacturers of sawmills, edgers and skidders. Call 800-661-7746 ext. 348 or visit www.norwoodindustries.com. Circle **32**.

PORTER CABLE

Receive a free 128-page catalog featuring Porter-Cable's full offering of power tools, air nailers and staplers, compressors, and related accessories. For more information, call 800-465-TOOL or visit www.porter-cable.com. Circle **33**.

RYOBI

Ryobi's Super Combo Kit, Model HP318MK2F, Workshop in a Box. For \$199, you get a powerful 18-volt reciprocating saw, circular saw, drill/driver and flashlight. For more information, call 800-525-2579 or visit www.ryobitools.com. Circle **34**.

SMITHY

Provider of high quality multipurpose metal and woodworking machinery. For more information, call 800-476-4849 or fax 800-431-8892. Circle **35**.

WILKE MACHINERY

Exclusive home of Bridgewood and Yorkcraft. Source for General, Delta, Powermatic woodworking machinery and accessories. Machines test run before shipping, quality service and parts. For more information, call 800-235-2100 or visit www.wilkemach.com. Circle **36**.

WOODMASTER TOOLS

See how you can quickly turn \$5 rough stock into \$75 worth of molding with a Woodmaster Molder/Planer/Sander/Saw. Free facts. For more information, call 800-821-6651 or visit www.woodmastertools.com. Circle **37**.

WOODMASTER TOOLS

See why Woodmaster's 26", 38" & 50" Drum Sanders are rated #1 by independent experts. Free report. For more information, call 800-821-6651 or visit www.woodmastertools.com. Circle **38**.

WOODWORKING SUPPLIES & ACCESSORIES

ACCUSET TOOL COMPANY

Woodworking tools, painting aids and home repair products featuring Paragauge, Squeak-Relief, RollerSaver and more. For more information, call 800-343-6129 or visit www.worksavers.com. Circle **39**.

ADJUSTABLE CLAMP COMPANY

The Adjustable Clamp Company has been manufacturing quality hand tools and accessories for almost 100 years. Jorgensen, Pony and Adjustable products have been preferred worldwide by fine woodworkers, shop experts, professionals and do-it-yourselfers since 1903. For more information, visit our website www.adjustableclamp.com. Circle **40**.

BRAND NEW INDUSTRIES, INC.

Custom branding irons for all levels of woodworking. Gas or electrically heated. Incredibly detailed and long lasting images. Optional temperature controller and drill press attachment. For more information, call 805-964-8251 or visit www.brandnew.net. Circle **41**.

FUJI INDUSTRIAL SPRAY

Leading manufacturer of HVLP (High Volume/Low Pressure) Paint Spraying Equipment including the new Q-Series quiet turbines. For more information call 800-650-0930 or visit www.fujispray.com. Circle **42**.

GORILLA GLUE

The Toughest Glue on Planet Earth™. Gorilla Brand Premium Glue is the finest glue available for bonding wood, stone, metal ceramics, plastics,

and more. Incredibly strong and 100% waterproof. For more information, call 800-966-3458 or visit www.gorillaglue.com. Circle **43**.

LEIGH INDUSTRIES

Leigh offers router joinery jigs, including the D4 Dovetail Jig, which cuts Through, Half-blind and Sliding dovetails up to 1" thick. They also make jigs for mortise & tenons, finger joints and Isoloc™ joints. For more information, call 800-663-8932 or visit www.leighjigs.com.

LRH ENTERPRISES, INC.

The Magic Molder converts your table saw into a molder! Merely remove the existing saw blade and install the Magic Molder in its place to produce molding on your saw. For more information, call 800-423-2544. Circle **44**.

McFEELY'S

Square Drive Screws stocked in more sizes and styles than you can imagine! Plus clamps, saw blades, router bits and other woodworking essentials. For more information, call 800-443-7937 or visit www.mcfeelys.com. Circle **45**.

MINWAX EASY WEEKEND PROJECTS BOOKLET

This attractive 12-page guide contains easy wood finishing and home decorating projects you can do in a weekend. Also featured are helpful tips and techniques on wood maintenance and repair. Free. For more information, visit www.minwax.com. Circle **46**.

RED HILL CORPORATION

Industrial quality sanding belts, discs, rolls and sheets at wholesale prices by mail order. Redhill Corporation/Supergrit Abrasives. Free color catalog with incredible close out. For more information, call 800-822-4003 or visit www.supergrit.com. Circle **47**.

ROCKLER

Rocker is the #1 resource for hinges, slides and other hard-to-find hardware. We feature an exclusive line of jigs, shop tables for band saws, drill presses, routers as well as exotic and domestic hardwoods. For more information, call 800-403-9736 or visit www.rockler.com. Circle **48**.

WOODPECKERS, INC.

Manufacturers of precision router lifts, largest Inca dealer in the U.S. Makers of highend router tables and accessories. For more information, call 800-752-0725 or visit www.woodpeck.com. Circle **49**.

ZAR WOOD STAIN

Zar Wood Stain wipes on like furniture polish to add rich, uniform color to wood. Controlled penetration brings out the natural beauty of all woods without streaks or lap marks. Available in 20 colors and a tint base. For more information, call 800-272-3235 or visit www.ugl.com. Circle **50**.

AMERICAN WOODWORKER FREE CATALOG SHOWCASE

ADJUSTABLE CLAMP

The ADJUSTABLE CLAMP Company has been manufacturing quality hand tools and accessories for almost 100 years. JORGENSEN, PONY and ADJUSTABLE products have been preferred worldwide by fine woodworkers, shop experts, professionals and do-it-yourselfers since 1903. For more information, visit www.adjustableclamp.com. Circle 51.



AMAZON.COM/ TOOL CRIB

128 pages with over 4,000 high-quality tools and equipment for the professional contractor, woodworker, hobbyist or do-it-yourselfer. Call 1-800-635-5140 for a free catalog or visit us at www.toolcrib.amazon.com. Circle 52.



COOK'S SAW AND MACHINERY

Maximize your potential; quickly turn logs into lumber. Accu-Trac sawmills known for long life and consistent production. For a free catalog call 1-800-473-4804. For a free "Sawmilling Tips" e-newsletter, visit www.cookssaw.com. Circle 53.



EAGLE AMERICA

Features the largest selection of professional quality American made router bits. Hundreds of unique accessories. 100% total satisfaction guaranteed. For a free catalog, call 1-800-872-2511 or visit www.eagle-america.com. Circle 54.



ECOGATE

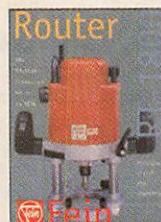
The ultimate in dust collecting. Motorize blast gates extract only from machines in use and electronic controller operates your dust collector. For more information, call 1-888-ECOGATE or email info@ecogate.com. Circle 55.



For more information, call 1-888-ECOGATE or email info@ecogate.com. Circle 55.

FEIN POWER TOOLS

For over 130 years Fein has researched and developed better solutions to take the place of time consuming manual labor. Superior quality is in every tool we make. For more information, call 1-800-441-9878 or visit www.feinus.com. Circle 56.



FISCH PRECISION TOOLS

Review our catalog and locate the dealer nearest you by visiting www.fischwoodworking.com. Circle 57.



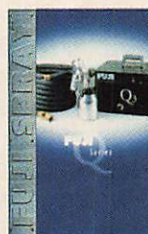
FREUD SAW BLADES

This 48-page, full color catalog includes detailed information, features and benefits of Freud's wide selection of quality saw blades. FREUD. Free. For more information, call 1-800-334-4107 or visit www.FreudInc.com. Circle 58.



FUJI SPRAY

Fuji Q-Series and HVLP Systems. The Q3 and Q4 models are the first quiet turbines in the mid-price range. For a free brochure, call 1-800-650-0930 or visit www.fujispray.com. Circle 59.



GRIZZLY

468-page free color catalog of 11,000 woodworking and metalworking machines, tools and accessories! For more information, visit our website



www.grizzly.com or call 1-800-523-4777. Circle 60.

JET EQUIPMENT & TOOLS

JET's Woodworking Catalog offers a complete line of quality stationary woodworking machines and accessories ranging from tablesaws to dust collection fittings. For more information, call 1-800-274-6848 or visit www.jettools.com. Circle 61.



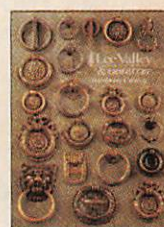
LAGUNA TOOLS

Laguna Tools imports fine European Woodworking machines including award winning Band saws, combination machines and our new TS Table saw product line. For more information, call 1-800-234-1976 or visit www.lagunatools.com. Circle 62.



LEE VALLEY

The Lee Valley Hardware catalog contains thousands of interesting and hard-to-find items – styles from modern to classic to funky. 144 full-color pages. FREE. Circle 63.



McFEELY'S

McFeely's specializes in the Square Drive Screw – a design that virtually eliminates driver bit slippage. We stock over 750 types of fasteners as well as carbide tipped saw blades, router bits, clamps, and finishing supplies. Visit our website at www.mcfeelys.com or call 1-800-443-7937. Circle 64.



FREE CATALOGS!

- Circle the numbers on the Free Product Information reply card which correspond to the free catalogs you wish to receive, then affix postage and mail the card.
- You may also mail your requests to: American Woodworker, P.O. Box 5337, Pittsfield, MA 01230-5337.

GET YOUR FREE CATALOGS FASTER ON-LINE!

Visit www.americanwoodworker.com and, click on "Free Product Information."

M.L. CONDON

Imported and domestic hardwoods in just about any specie and size, including extra long, extra wide, and extra thick... rough cut or milled to your specs for cabinetry, mouldings, flooring, trims. For a free catalog and more information call **914-946-4111**. Circle **65**.

**MLCS WOODWORKING**

MLCS has the products and information to make your woodworking projects easy! Huge selection, carbide tipped router bits, boxed router bit sets, clamps, tools, and supplies. Free Shipping! For more information call **1-800-533-9298** or visit www.mlcswoodworking.com. Circle **66**.

**OSBORNE WOOD PRODUCTS, INC.**

Osborne Wood Products, Inc. is a manufacture of sofa legs, table legs, bunn feet as well as Kitchen Island legs. Most products are in stock in Cherry, Soft Maple, Red Oak and Pine. Company has no minimum order amount. Custom work is also available. Request a free catalog at **1-800-746-3233** or visit www.osbornewood.com. Circle **67**.

**ONEIDA AIR SYSTEMS, INC.**

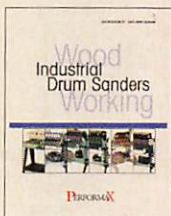
Oneida Air Systems, Inc. offers the finest quality dust collection systems 1.5 hp and larger. Brochure includes all components and pricing. System sizing and duct-work design available. For more information call **1-800-732-4065** or visit www.oneida-air.com. Circle **68**.

**PACKARD WOODWORKS**

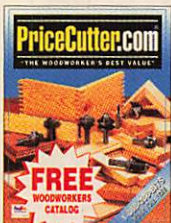
Supplies for Woodturners...64 Pages... including Penmaking Kits, Woodturning Tools, Sanding and Sharpening Supplies, Chucks, Drive Centers, Books and more. For more information, visit www.packardwoodworks.com. Circle **69**.

**PERFORMAX**

Performax's Drum Sanding Catalog offers 20 drum sanders with capacities from 16" - 50" with single or dual drums. For more information, call **1-800-274-6848** or visit www.performaxproducts.com. Circle **70**.

**PRICE CUTTER**

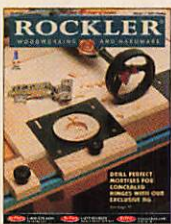
A large selection of router bits, bandsaw, scroll saw blades and woodworking accessories. Close-outs at unbelievable prices. For more information, call **1-888-288-2487** or visit www.pricecutter.com. Circle **71**.

**RED HILL**

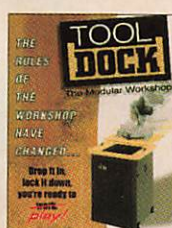
Supergit Abrasives. Industrial quality sandpaper at wholesale prices. Belts, discs, rolls, sheets for wood, metal, automotive, and marine. For a free 48-page color catalog, call **1-800-822-4003** or visit www.supergit.com. Circle **72**.

**ROCKLER WOODWORKING AND HARDWARE**

Rockler Woodworking and Hardware is your #1 resource for hard-to-find hardware, EXCLUSIVE line of jigs and shop tables for your bandsaw, drill press and routers. For more information, call **1-800-403-9736** or visit www.rockler.com. Circle **73**.

**TOOL DOCK**

Tool Dock, the innovative modular workshop system, features quick tool set-up and changeover to save valuable time and workspace. For more information, call **1-866-866-5362** or visit www.tooldock.com. Circle **74**.

**THE WOODWORKER'S CHOICE**

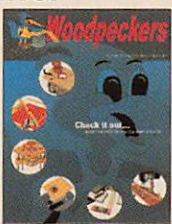
Wide selection of woodworking tools, including Oldham accessories, offered by knowledgeable woodworkers. Come visit us on *The Woodworking Show circuit*. www.thewoodworkerschoice.com or call **1-800-892-4866**, M-F 8am-9pm ET. Circle **75**.

**WILKE MACHINERY**

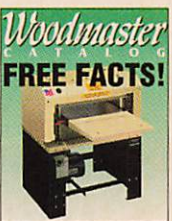
Wilke Machinery offers a new catalog with 80 pages of quality wood and metal-working machines, tools, accessories, books and videos. Products include: BRIDGEWOOD® Planers, Bandsaws, Table Saws, Lathes, Jointers, Widebelt Sanders and much more. FREE Catalog; call **1-800-235-2100** or visit www.wilkemach.com. Circle **76**.

**WOODPECKERS, INC.**

Woodpeckers, Inc. are manufacturers of Precision Router Lift, Largest Inca dealer in the United States and makers of high-end router tables and accessories. For more information, call **1-800-752-0725** or visit www.woodpeck.com. Circle **77**.

**WOODMASTER TOOLS**

Four-way money-maker planes, molds, saws, make over 350 trim patterns... any custom design. Call **1-800-821-6651** or visit www.woodmaster-tools.com. Circle **78**.



Great Wood!



MAHOGANY DRESSER BY ROBBIE STAPLES

Quilted Honduras Mahogany

If mahogany is the king of fine-furniture and cabinetry wood, quilted mahogany is the jewel in the king's crown. The quilted figure looks three-dimensional, with closely crowded, elongated, billowy bulges.

While quilted Honduras mahogany (*Swietenia macrophylla*) is not hard to find, the amount of figure shown here is rare. No wonder the price tag can get as high as \$50 a bd. ft. Many woodworkers stretch their dollars by resawing this premium wood into veneer that can be applied to drawer fronts or used as door panels.

Honduras mahogany is prized for its exceptional working and finishing characteristics. *Quilted* Honduras mahogany, on the other hand, needs special attention when machining or finishing. The unruly grain pattern often causes tear-out. To reduce this problem, try wetting the wood before you send it through the planer.

The right finish will bring out the best in the quilted pattern. Start with two applications of dye. Sand down the first application so the dye remains in the pores. Add the second coat of dye to really make the figure pop. Finally, a clear topcoat yields an amazing 3-D effect that makes the wood come alive.

We got our quilted Honduras mahogany from Hearne Hardwoods in Pennsylvania. Prices range from \$10 to \$50 a bd. ft., depending on thickness (4/4 to 16/4) and the intensity of figure in the wood. **AW**

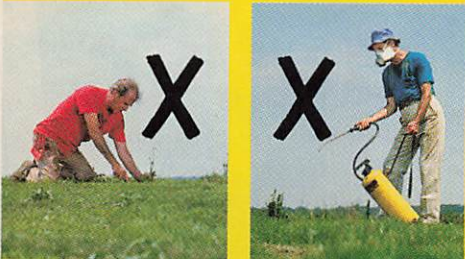
Sources See page 108

Know of some Great Wood?
We'd love to hear about it.
Write Dave Munkittrick at
dave_munkittrick@readersdigest.com.

The 3-D effect in quilted Honduras mahogany is so pronounced, you'll be tempted to touch the board just to see if it's really flat.



Watering chores, water bills! Sweating behind a roaring mower! Spraying poison chemicals and digging weeds...



...you can end such lawn drudgery—here's how!



Amazoy is the Trade Mark registered U.S. Patent Office for our Meyer Zoysia Grass.

Mow your zoysia lawn once a month—or less! It rewards you with weed-free beauty all summer long.

7 Ways Your Zoysia Grass Lawn Saves You Time, Work, and Money!

1 CUTS WATER BILLS AND MOWING AS MUCH AS 2/3

Would you believe a lawn could be perfect when watered just once? In Iowa, the state's biggest Men's Garden club picked a zoysia lawn as "top lawn—nearly perfect." Yet, this lawn had been watered only once all summer to August!

In PA, Mrs. M.R. Mitter wrote "I've never watered it, only when I put the plugs in...Last summer we had it mowed 2 times...When everybody's lawns here are brown from drought, ours stays as green as ever." *That's how zoysia lawns cut water bills and mowing! Now read on!*

2 ENDS RE-SEEDING NEVER NEEDS REPLACEMENT

Plug in our zoysia grass and you'll never have to spend money on grass seed again! Since you won't be buying seeds, you won't need to dig and rake—then hope the seeds take root before birds eat them or the next hard rain washes them away.

3 NO NEED TO DIG UP OLD GRASS

Plant Amazoy in old lawn, new ground, whatever. Set 1" square plugs into holes in the soil 1 foot apart, checkerboard style. Plugs spread to drive out old, unwanted growth, weeds included. Easy instructions with your order. If you can put a cork into a bottle, you can plug in Amazoy.

4 FOR SLOPES, PLAY AREAS, AND BARE SPOTS

You can't beat Amazoy as the low cost answer for hard-to-cover spots, play-worn areas, or to end erosion on slopes.

Endless Supply of Plug Transplants

Transplant plugs from established Amazoy as you desire—plugged area grows over to provide all the plugs you'll ever need.

FREE! Exclusive Step-on Plugger with orders of 625 plugs or more.

Starting your lawn is easy with this sturdy, 2-way plugger. Cuts away unwanted growth as it digs holes for plugs. Saves bending, time, work. Invaluable transplant tool.

5 IT STAYS GREEN IN SPITE OF HEAT AND DROUGHT

"The hotter it gets, the better it grows!" Plug-in zoysia thrives in blistering heat, yet it won't winter kill to 30° below zero. It just goes off its green color after killing frosts, begins regaining its green color as temps. in the spring are consistently warm. Of course, this varies with climate.

6 NO NEED TO SPEND MONEY ON DANGEROUS CHEMICALS

Since zoysia lawns resist insects AND diseases, you avoid the risk of exposing your family or pets to weedkillers and pesticide poisons. Plug in Amazoy and save the money, avoid the risks!

Meyer Zoysia Grass was perfected by U.S. Govt., released in cooperation with U.S. Golf Association as a superior grass.



Thrives from part shade to full sun.

Every Plug GUARANTEED TO GROW IN YOUR SOIL No Ifs, Ands Or Buts!

Read a guarantee no grass seed can match!

Won't Winter Kill. Amazoy has survived temperatures to 30° below zero!

Won't Heat Kill. When other grasses burn out in summer drought and heat, Amazoy remains luxuriously green.

Any plug failing to grow in 45 days will be replaced FREE! To insure maximum freshness and viability, plugs are shipped not cut all the way through. Before planting, finish the separation with shears or knife. Our guarantee and planting method are your assurance of lawn success backed by more than five decades of specialized lawn experience!

We ship all orders the same day plugs are packed at earliest correct planting time in your area.

NOT SHIPPED OUTSIDE USA, or into WA or OR.

7 CHOKES OUT CRABGRASS AND WEEDS ALL SUMMER

Your established Amazoy lawn grows so thick, it simply stops crabgrass and summer weeds from germinating!

VISIT US AT: www.zoysialawns.com/mag.html

ORDER NOW! AND GET UP TO 400 PLUGS FREE!

TO: Zoysia Farm Nurseries, Dept. 640
General Offices and Store
3617 Old Taneytown Road
Taneytown, MD 21787

Please send me guaranteed Amazoy as checked:

☐ 50 PLUGS	☐ 100 PLUGS +10 FREE	☐ 100 PLUGS +20 FREE with Plugger	☐ 250 PLUGS +50 FREE with Plugger
\$5 ⁹⁵	\$8 ⁹⁵	\$12 ⁹⁵	\$19 ⁹⁵
+ \$3.50 S&H	+ \$4.35 S&H	+ \$5.80 S&H	+ \$7.65 S&H

☐ 625 PLUGS +125 FREE with FREE Plugger	☐ 1,000 PLUGS +200 FREE with FREE Plugger	SPECIAL OFFER! ☐ 2,000 PLUGS +400 FREE with FREE Plugger
ONLY \$31 ⁹⁵ + \$11.85 S&H	ONLY \$45 ⁹⁵ + \$17.15 S&H	ONLY \$74 ⁹⁵ + \$23.15 S&H
☐ Additional Plugger \$6 ⁹⁵		

Write price of order here \$ _____
MD residents add 5% tax \$ _____
Shipping & handling (S&H) \$ _____
TOTAL \$ _____

I enclose \$ _____ ☐ Check ☐ MO
Charge credit card ☐ MasterCard ☐ VISA

Acct. # _____

Expiration Date _____

NAME _____

ADDRESS _____

CITY _____

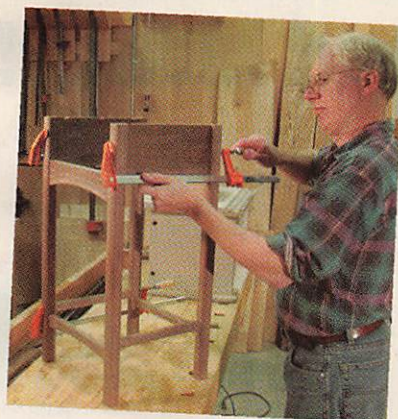
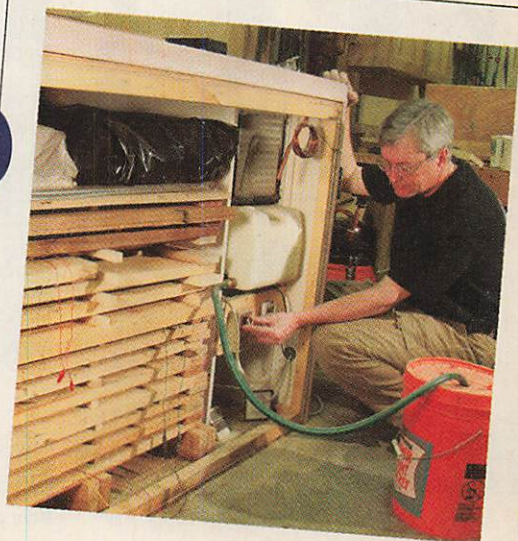
STATE _____ ZIP _____

What's Coming Up

in AW #94, June 2002

Dry-Your-Own Lumber

Frustrated by the high cost of lumber? Who isn't?! Well, we've got the solution. Dave Munkittrick's been working on the design of a simple kiln that incorporates a household dehumidifier. It's easy to build, easy to operate, and can handle 100 to 200 bd. ft. at a crack, depending on whether it's the 4-ft. version shown here, or the full 8-ft. version. This kiln can pay for itself with the first full load of lumber you dry!

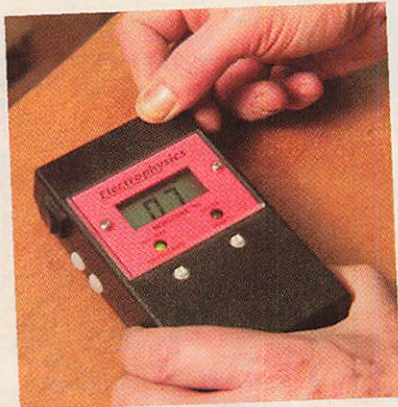


Occasional Table

Tom's working on a little table (this is the prototype) that would fit in just about anyone's home, and it's got features that you, the builder, will love. It uses all 3/4-in. lumber, and very little of it at that. It's perfect if you want to try building it out of an exotic (and expensive) species, or if you've got a spectacular board squirreled away. The joinery has been streamlined, too, so it's fast to build. We're making a half dozen!

Outdoor Wood Finishes

The elements are tough on outdoor wood finishes, especially clear finishes. Peeling, cracking, annual maintenance—ack! Well, you can combat all of those problems, and Randy's going to show you how, with advice on some new, specialized, high-tech clear finishes that will both show off that beautiful project *and* protect it.



Tool Review: Moisture Meters

Most woodworkers are wood scavengers. We're all eager to pick up a bargain, or something unusual, from old barns, garage sales, the back lot of sawmills and lumberyards, and even firewood piles. The problem is that you never know how well dried that scavenged stuff is. (Sometimes that's true of store-bought lumber, too!) A moisture meter can take some of the uncertainty out of your wood scavenging, buying and storage. We're putting together a review of all the models designed for small-shop woodworkers. Check it out.

Professionals use laser for precise measurements...why don't you?

New Laser Level provides pinpoint accuracy for precise measurements...for almost any home improvement task.

by Richard Maloy

Do you ever watch home renovation shows on TV and wonder how they manage to complete their projects so quickly? In about the time it takes me to find my missing screwdriver, they've installed eight ceiling fans and built a deck. I also have the same problem when trying to line up pictures and paintings around the house. No matter how many people I have with me telling me, "a little more to the left, no, a little more to the right," I never seem to get the frames perfectly aligned. I know one thing that helps the people on TV complete jobs so quickly, and hang pictures straight: laser technology. Now, an innovative company has introduced



a space-age level that is the ultimate in precision.

Do-It-Yourselfer's dream. Even if the project has gone wrong in countless ways, I'll still feel that I need to finish what I started. And I'm the type of person who has to do things on their own. This of course takes more time than I've got, but now with the Laser Level, I can make precise measurements the first time around, leaving no room for errors. The Laser Level is a 16-inch machined aluminum level with an incredible laser light. It can project a dot or a line on any surface...at a distance of up to 1500 feet! That means that anytime you need to line something up or make it perfectly level, all you do is turn on Laser Level and mark the spot. It features high quality horizontal and vertical bubble levels. The handy lens refractor clips onto the end of the unit, letting you select the line or the dot image. The level includes a threaded tripod mount and is inscribed with a ruler with indications to 1/8 inch. It's perfect for everyone from contractors and engineers to interior designers and home craftsmen.

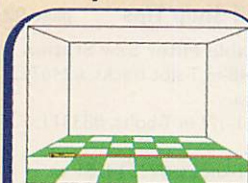
Factory direct limited time offer. Laser technology has come a long way over the years. What originally began in research labs for high level military applications is now the newest way to make home improvement easier than ever. We've been working with the makers of this high quality product for years, so we can offer it to you at a special volume discount. Call today and you'll never hang a crooked picture again.

Risk-free precision. If you're anything like me, you open up your home frequently for guests, but it's also a place where you want to enjoy your surroundings on a day to day basis. That means when it's time to make renovations, or hang new pieces of artwork, you want the job to be done quickly and accurately...the first

Perfect For:

- Contractors
- Home Inspectors
- Plumbers
- Electricians
- Engineers
- Craftsmen
- Interior Designers
- Do-it-Yourselfers

Measure like the professionals

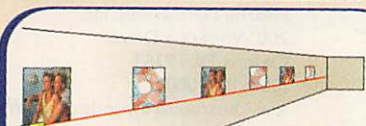


- Lay perfectly straight floor tiles

Laser provides ultra-accurate measurements up to 1500 ft.



- Ensure that walls are level



- Never hang a crooked picture again

Mark's story



The Laser Level is just about the coolest gadget we have seen in years! No self-respecting handyman should be without one.

Results not typical.

time. Now you don't have to be a TV Tool Guru to accomplish this. The latest measurement technology is available to you right now. The Laser Level comes with a 90-day manufacturer's limited warranty and TechnoScout's exclusive home trial. If you are not satisfied for any reason, simply return it within 30 days for a full "No Questions Asked" refund.

LASER Level™ \$39.95 \$7.95 S&H

Please mention product code **8218-22209**

For fastest service, call toll-free 24 hours a day

800-992-2966

To order by mail, send check or money order for the total amount including S&H. To charge it to your credit card, enclose your account number and expiration date.

Virginia residents only—please include 4.5% sales tax.

Latest...Greatest...Neatest...Coolest...

You can see hundreds of high-tech products at www.technoscout.com

TECHNO SCOUT
1998 Ruffin Mill Road
Colonial Heights, Va 23834 [com](http://www.technoscout.com)

Sources

Where to buy all the stuff we used.

Question & Answer page 10

Brass Ager, #M-3, 8 oz.; \$2.75, plus shipping
Phyllis Kennedy Hardware
(800) 621-1245
www.kennedyhardware.com

Workshop Tips page 18

Doweling Jig Saw Stop
Doweling jig, #903-713; \$54
Stick-on tape measure,
#100-015; \$6
Woodworker's Supply,
(800) 645-9292
www.woodworker.com

Magnetic Nail Starter
Magnetizer, #84666; \$7
Rockler, (800) 279-4441
www.rockler.com

Beaded Edge Detail
1/4-in. bullnose router bit,
#654-502; \$31
Jesada, (800) 531-5559
www.jesada.com

Tape-On Miter Gauge Shim
Aluminum tape is available in the heating department at home centers for about \$10 a roll. Auto parts stores sometimes carry smaller rolls for about \$5

Brad Driver In Reverse
Hand brad driver #10515; \$11
Hartville Tool, (800) 435-2396
www.hartvilletool.com

Well-Equipped Shop page 28

Super-Smooth Benchtop Planer
Delta Two-Speed Finishing Planer
#22-580; \$450
(800) 438-2486
www.deltawoodworking.com

New Left-Tilt Cabinet Saw
#G1023SL; \$895, plus \$75 shipping anywhere in the 48 contiguous states
(800) 523-4777
www.grizzly.com

Adjustable-Height Bench
Noden Adjust-A-Bench; \$380
(609) 882-3300
www.geocities.com/adjustabench/

Freud Jigsaw Features Easy Blade Changes
FJ85; \$120
(800) 334-4107
www.freudtools.com

Our Favorite Marking Gauges
Veritas Standard Wheel Gauge,
#O5N33.01; \$20
(800) 871-8158
www.leevalley.com

Tite-Mark Marking Gauge; \$80
(707) 961-1569
www.glen-drake.com

Shop Fox Marking Gauge, (not shown), #H2526; \$12
(800) 523-4777
www.grizzly.com

Tips for Finishing Cherry page 52



SealCoat universal sealer
(100-percent wax-free shellac, 2-lb. cut),
1 qt.; \$8, 1 gal.; \$19
Wm. Zinsser Co.
(732) 469-8100
www.zinsser.com

Aerosol spray finishes, 11- to 12-oz. can; \$5 to \$8
Hardware stores and home centers

Artists' oil colors
Burnt umber, X96 1208076,
21 ml; \$6
Raw sienna, X96 1208552,
21 ml; \$6

Liquin liquid medium,
X96 3222991
75 ml; \$7
Michaels Arts & Crafts
(800) 642-4235
www.michaels.com

Tung oil finish
1 qt.; \$17

Linseed oil finish
Tried and True Danish
Oil Finish
#126855, 1 qt.; \$20
Hartville Tool, (800) 345-2396
www.hartvilletool.com

Water-based dye
TransTint, golden-brown dye
#128482, 2 oz.; \$16
Woodcraft
(800) 225-1153
www.woodcraft.com

Old Growth Aged Cherry Color Kit
1 qt. (1-pt. bottles of activator and catalyst); \$22
Old Growth Solutions LLC
(866) 301-9663
www.ecostain.com

Craftsman-Style Outdoor Chair page 60



Mahogany
\$4 to \$5 per bd. ft.
Steve Wall Lumber Co.
(800) 633-4062
www.walllumber.com

Outdoor canvas
\$7 to \$15 per yard
Your local fabric store

1-in. round-over bit
2012, \$88 ea.
Routerbits.com, (888) 811-7269
www.routerbits.com

45-degree chamfer bit
C1135; \$23 ea.
Grizzly Industries, (800) 523-4777
www.grizzly.com

1/2-in. round-over bit
638-880, \$40 ea.
Jesada Tools, (800) 531-5559
www.jesada.com

Toggle clamps
GH 201-B, \$7 ea.
Good Hand, Inc., (800) 989-5244
ext. 233
www.goodhandinc.com

Weather-resistant glue
Your local hardware store or home center

Galvanized screws
#6 x 5/8-in. galvanized screws,
pan head, #0605-PSS; \$6 per 100
#8 x 2-1/2-in. galvanized screws,
flat head, #0824-FAS; \$13 per 100
#10 x 3-in. galvanized screws,
flat head, #1030-FAS; \$18 per 100
#10 x 3-1/2-in. galvanized screws,
flat head, #1034-FAS; \$22 per 100
McFeely's, (800) 443-7937
www.mcfeelys.com

Pattern router bit
50-126, \$26 ea.
Woodworker's Supply
(800) 645-9292
www.woodworker.com

Folding Shop Table page 74

T-style knobs, 5/16 in.-18,
#142226; \$2 ea.
Self-centering hinge bit for
#5 & #6 screws, #16141; \$10
Woodcraft Supply
(800) 225-1153
www.woodcraft.com

Jewelry Box page 80



Self-adhesive velvet,
12 in. x 24 in., red, green, or blue;
\$8/sheet (three sheets required)

Ring holders, red, green, or blue; \$3

Jewelry box stop hinges,
#41781; \$20/pair
Rockler Hardware
(800) 279-4441
www.rockler.com

Escutcheon plate, #02U06;
\$6

Trans Tint, medium brown,
#128484, 2 oz.; \$16

Router bits
1/2-in. cove bit, #24D13; \$34
1/4-in. round-over, #24C22; \$24
1/8-in. round-over, #24B92; \$24
Band clamp, #08F61; \$10

Double-faced tape, #15D25
1-in. x 36 yds; \$15
Woodcraft Supply
(800) 225-1153
www.woodcraft.com

Deft semi-gloss clear wood finish; \$7 per 12.25-oz. can
Home centers

Small Shop Tips page 92

Portable Miter Saw Station
Two 48-in. T-slot tracks, #24672;
\$20 ea.
Four 1-1/2 in. T-bolts, #83311;
\$1 ea.
Four T-knobs, #71514; \$1 ea.
Rockler, (800) 279-4441
www.rockler.com

Dado Blade Carrier
1/2-in. rare-earth magnet,
#99K31.03; \$.80 ea.
1/2-in. magnet cup holder,
#99K32.53; \$.50 ea.
Lee Valley Tools, (800) 871-8158
www.leevalley.com

Great Wood! page 104

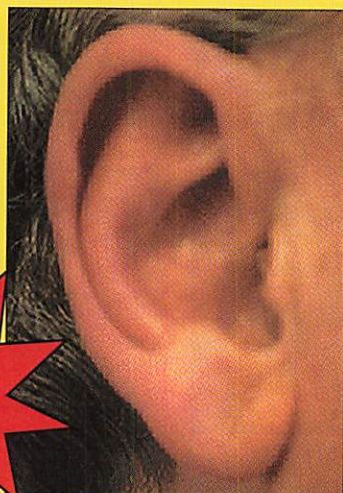
Hearne Hardwoods, Inc.
200 Whiteside Drive
Oxford, PA 19363
(888) 814-0007
www.hearnehardwoods.com AW

Revolutionary Hearing Aid—Free Information

Soft Hearing Aid with Remarkable Sound!

Less
Than \$300

**Out of
Sight!**



**Made in
the USA!**



EarMate-63 enlarged

Our Customers Say it Best!

"Perfect size! Perfect price!...
Wow, the right hearing aid for
me at the right time and right
price and right service."

R.H. - Garden City, SC

"Satisfied, the hearing aid
brings the sound near and the
music notes closer."

A.M. - New Britain, CT

"I find it a great help."

R.C. - San Diego, CA

"Thank you for this great hearing
aid at the most reasonable price
and of excellent performance."

J.H. - Houston, TX

"I have been waiting years to
get hearing aids but did not
want to pay the \$3,600 for two
of them. These work great so
far and I am not having trouble
getting used to them."

G.M. - Otis, OR

"I can hear so much better.
Thanks, very happy now."

A.L. - Nashville, GA

"It is a very good aid and really
down to earth price."

L.P. - Sutherlin, OR

"These are the most comfortable
hearing aids I have ever worn.
You have a customer for life."

J.W. - Bishopville, MD

Call 1-800-843-3773 dept 05-505
for your Free Information!

© Hearing Help Express, Inc.
DeKalb, IL 60115-0586

You can get the best fit and
the best sound possible
from a new ready-to-wear
American made hearing
aid. All for less than \$300
with our introductory offer.

You get a great fit with a
soft, flexible hearing aid
which conforms to your
ear canal. Your superior
sound quality comes from
the Class-D receiver in the
EarMate-63.

You order easily by mail
from a family business
with more than 150,000
satisfied customers and
20 years in business.

Shipping is free. You try
the new, soft EarMate-63
risk-free with a 45-day
home trial & money-back
guarantee. Compare to
hearing aids over \$1,000
& decide which is best for
you. Write or call today!

Hearing Help Express

105 North First St., Dept 05-505
DeKalb, IL 60115-0586

Free Shipping!

☒ **YES!** Please rush me details
on the EarMate-63 introductory offer.
I understand there is no obligation and
no salesperson will call.

Mr./Mrs./Ms. _____

Address _____

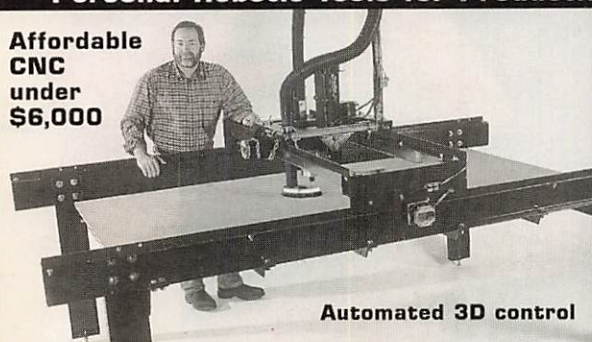
City/State/Zip _____

WOODWORKER'S MARKETPLACE

Look for the Reader Service Numbers on pages 100 & 101

Personal Robotic Tools for Productivity & Flexibility

**Affordable
CNC
under
\$6,000**



Automated 3D control

www.ShopBotTools.com



ShopBot®

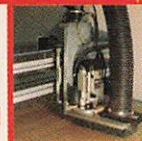
The WorkShop RoBot

(919) 680-4800
Durham, NC
Fax (919) 680-4900
888-680-4466

CNC Routers from Machine Tool Camp

**Computer
Controlled
Router
CNC!**

**Get an
Edge
Above
the Rest!**



**Engineering Packages
From \$70**

6 Sizes

OSHA E-Stop
G&M Code, 350"/min
CAD/CAM Ready
Hobby, Industry, School
Easy to Build with
Common Shop Tools

**You Build It!
You Make \$\$**
715-532-5308

www.MachineToolCamp.com

Increase Profits & Cut Cost With An Accu-Trac Sawmill.

**The Craftsmen's Choice For Converting
Logs Into Valuable Lumber!**

Proud Distributor of

SIMONDS®

Red Streak Bandsaw Blades

**For FREE Catalog
Mention Code #AMW02**

800-473-4804

Cook's Saw & Machine

MP32 Ready-to-Saw

Heavy Duty 3x6 Frame
4 Post Head Frame
19" Band Wheels
Cuts 32" Diameter Logs
2 Movable Log Clamps

\$4,995



Shown with optional
trailer package.

**Free Sawmill E-Newsletter
Sign Up Today: www.cooksaw.com**

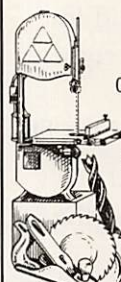
FREE TOOL CATALOG

highlandhardware.com



Our comprehensive tool catalog gives you more than just manufacturer's specs. We provide detailed tool descriptions, useful tips & techniques and a schedule of seminars & hands-on workshops.

**CALL FOR FREE TOOL CATALOG
1-888-500-4466**



HEARNE HARDWOODS

Specializing in

Pennsylvania Cherry

Plain & Figured Cherry from 4/4 to 16/4

Also: Premium Walnut, figured Maples & a large variety of exceptionally fine domestic & imported lumber including free form slabs, turning blanks, burls, & Instrument grade lumber.

200 Whiteside Drive, Oxford, PA 19363
Toll Free **888-814-0007** Fax 610-932-3130
www.hearnehardwoods.com

National & International Shipping



WOOD MOISTURE METERS

- Universal
- Accurate - Handy
- Pinpoints moisture problems from the surface to the core!
- For heavy timbers to veneer, for rough, smooth or curved surfaces. For wet and dry wood.
- Lignomat USA
- PO Box 30145
- Portland, OR 97294



Lignomat :: 800-227-2105

To place an ad in the Marketplace call 1-800-394-5157 ext 12

WOODWORKER'S MARKETPLACE

Look for the Reader Service Numbers on pages 100 & 101

Woodworking Books, Videos & Plans

Save up to 20% * 800 titles in stock * Free price list

www.discount-books.com

800-378-4060

P.O. Box 121
Penrose CO 81240

Woodbooks

**The best
sawmill
value...ever.**

\$3895



FREE INFORMATION - USA & CANADA

1-800-661-7746 ext 348

NORWOOD
HARDWARE & TOOL CO.



Add that **Distinctive Look** to your wood-working projects. Quality handcrafted yet reasonably priced panels. Many finishes & designs. Do-it-yourself materials & kits, too! Large colorful catalog \$5.00 or catalog with 14-pc. sample pack \$22.95 ppd.

MasterCard/Visa accepted.

Visit us on the web!
www.piercedtin.com

pierced tin

Country Accents®, P.O. Box 437, Dept. AW

Montoursville, PA 17754 • Ph. 570-478-4127 • M-F 9-5

email: caccents@webtv.net

Turn to Quality.

Game Call Starter Kit



#3300-AW only \$29.99!

Reusable Turning Kit includes:
7 mm mandrel rod, #1 or #2 Morse taper, knurled nut, bushings, washers, tubing, stopper turning guide. Plus receive: 1 Cocobola Duck Call Blank Kit with predrilled blanks, reed & lanyard. Ask about our other call blanks!

• High-Quality Pen, Project & Game Call Kits.

• Large Selection of Turning Blanks

• HUT Wood Finishes

• Sherline & Jet Lathe Systems

• Innovation, Not Imitation

Mention this ad for a FREE Catalog
Call Today! 1-800-684-9371

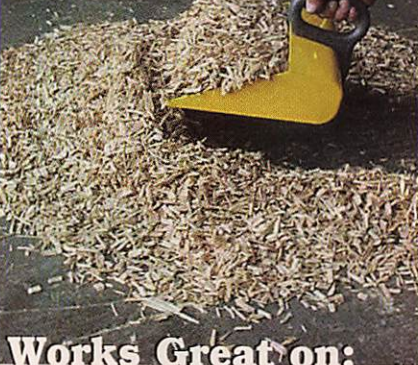


Shop online www.hutproducts.com

The Toughest TOOL in Cleaning!

**Heavy-Duty
SHOP-SCOOP™**
by The Scoop Works

- All Steel Pan Construction
- 1 gallon capacity
- 14" wide



Works Great on:

- Sawdust
- Woodchips
- Even liquid spills!

Visit us at: www.scoopworks.com

Or call for more information:

(800) 526-0906

The Scoop Works

P.O. Box 379, Rockford, MI 49341

Supergrit® SANDPAPER



HOOK & LOOP DISCS

2" \$16/100 3" \$20/100

4 1/2" or 5" 5 or 8 Hole \$13.00/50

6" 6, 8 or 16 Hole \$17.50/50

9" \$1.50 ea 12" \$2.50 ea

"Lapika" Micron 1/4 sheets
40-10 Micron (400-1500 grit)
Reg. \$39.95/50 Sale \$12.50/50

BELTS—A.O. RESIN

1 x 30 \$.75 4 x 24 \$1.10

1 x 42 \$.75 4 x 36 \$1.50

3 x 21 \$.85 6 x 48 \$3.50

3 x 24 \$.90 6 x 89 \$6.20

SHEETS—9" x 11", A.O.

50D, 80D \$14/50

120C, 150C \$23/100

180A, 220A \$21/100

ABRASIVE ROLLS

RED HILL CORP.

P.O. BOX 4234

FREE 48 PAGE CATALOG

& incredible close-out sheets.

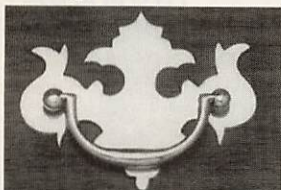
GETTYSBURG, PA 17325

800-822-4003

WWW.SUPERGRIT.COM

HARDWARE

Reproduction Brass and Iron Hardware



- Lighting Fixtures
- Fireplace Accessories
- Furniture Hardware
- Builder's Hardware



For details, call, write or
visit our web site:

www.ballandball-us.com

Or, send \$7.00 (refunded on 1st
order) for our 108 page catalog.

463 W. Lincoln Highway • Exton, PA 19341

Phone: 610-363-7330 • Fax: 610-363-7639

Orders: 1-800-257-3711

STEVE WALL LUMBER CO.

Quality Hardwoods and Woodworking machinery For
The Craftsman and Educational Institutions

The trusted supplier from the Heart
of North Carolina Furniture County.

HARDWOODS • EXOTICS • THIN
CRAFTWOOD • AROMATIC CEDAR
HARDWOOD PLYWOOD • CUSTOM PANEL
DOORS • HARDWOOD FLOORING

See Our Catalog on the WEB: walllumber.com

BOX 287 • MAYODAN, N.C. 27027

336-427-0637 • 1-800-633-4062

Email: wood@walllumber.com

SEND \$1.00 FOR CATALOG

WOODWORKER'S MARKETPLACE

Look for the Reader Service Numbers on pages 100 & 101



Table Base Kits

41 styles
and sizes: round,
rectangular, pedestal
and tavern

Includes hardware — just add
your own beautiful top.

Free color catalog
and pricing at:

www.tablelegs.com

800-843-7405

READY TO
FINISH!

CLASSIC DESIGNS
by MATTHEW BURAK

BOX 329, ST. JOHNSBURY, VT 05819

A Andrews Toolworks

Precision Ground Carbide Tipped

ROUTER BITS

www.routerbitsonline.com

800-821-8378

Quality German Workbenches

DIEFENBACH BENCHES™

Call 1-800-32Bench



33498 E. US Hwy 50
Pueblo, CO 81006

www.workbenches.com



Adams Wood Products™
LTD., L.P.

STOCK ITEMS

NO MINIMUM ORDERS

—OR—

WE WILL MAKE PRODUCTION RUNS OF YOUR PART

Made in
Tennessee
By American Craftsmen



P.O. Box 728, Dept. AW36
Morristown, TN 37815-0728
Phone 423-587-2942 • Fax 423-586-2188
www.adamswoodproducts.com

FREE
COLOR
CATALOG

DRY YOUR OWN LUMBER

Ebac's user friendly dry kilns 200BF - 40,000BF
Mix species in same load. Great 3 year warranty!
Over 7,000 systems worldwide!
Ebac Lumber Dryers
Call Today! 800-433-9011
Manufactured by craftsmen in Williamsburg, VA.

Need a Workshop?

SAVE THOUSANDS
WHEN YOU BUY
MANUFACTURER-DIRECT!
(Immediate — or deferred — delivery available)

The unique build-it-yourself design
saves you even more money!



- Easy & fast do-it-yourself assembly—no skilled labor or heavy equipment required.
- Engineered to simplify insulation process, for increased energy efficiency.
- Strong steel frame construction is designed to last—and withstand extreme weather.
- Wide assortment of building styles, sizes and colors available to choose from.

— SPECIAL OFFER —

40' x 60' (a \$20,888 value)
NOW ONLY \$11,291

Includes steel frames & endwalls, galv. sheeting,
hardware, trim & complete assembly plans.

Other sizes available at great prices too!

MIRACLETRUSS™

1-800-663-0553

www.miracletruss.com

Enjoy the benefits of HVLP with a FUJI!



- High transfer efficiency
- Soft, easy to control spray
- Compact and portable

Introducing the new Q3™ and Q4™

Quiet models.

First ever in the mid-price range.

Noise reduced by over 50% for a more relaxed spraying environment.

Systems also include the new Fuji Hi-Flex™ Rubber Hose.

FUJI
INDUSTRIAL SPRAY
EQUIPMENT LTD.

For brochure, please call 1-800-650-0930

Website: www.fujispray.com

[SUMMER]

JUNE 3 - AUG 9, 2002

Foster . Roth
Burchard . Fobes
Ellsworth . Russell
Purvey . Saylan
Christensen . Stowe
Escoulen . Tengelsen
DeWaard . Nittmann
O'Donnell . Sotelo

ARROWMONT
SCHOOL OF ARTS & CRAFTS

865.436.5860
www.arrowmont.org
Gatlinburg, TN



WOODWORKER'S MARKETPLACE

Look for the Reader Service Numbers on pages 100 & 101

RAZOR SAW

It cuts FASTER! EASIER! MORE ACCURATELY!



Order now, only \$24.95 post paid!

Craftsmen around the world Have discovered the secret of better quality work. The Razor Saw cuts by pulling, and will give a cleaner, more accurate cut in half the time.

Purchase a RAZOR SAW now and we will include our 72 page catalog of the world's finest woodworking tools. Or send \$3.00 for a two year subscription to our Catalog.

The Best handsaw for ALL woodworkers!
Dealer Inquiries Invited.
Dept D2

THE JAPAN WOODWORKER

1731 Clement Ave. • Alameda, CA 94501 • 1-800-537-7820

The Keller Dovetail System:

"Your best choice"

- Woodworker's Journal

"The setup is easy, adjustments minimal and the joints perfect. It's the easiest of all the jigs to use and great for production use."

- Woodworker's Journal

"In a class by itself."

- WOOD Magazine

VIDEO: \$8.95 + \$2 P/H
No test cuts. Fast setup. Unlimited widths. Precision joinery. Classic and variable spacing. Compound angles. Curved dovetails. Box joints. 20 year warranty. Made in USA since 1976.

To find out more, contact your Dealer or



KELLER & CO.
1327 T Street, Dept. R32
Petaluma, CA 94952
1-800-995-2456
707-763-9336
www.kellerdovetail.com

Keller Dovetail System
Simply the best!

WAGON WHEELS

www.windyhillwoods.com

HOW TO MAKE WORKING DECORATIVE WAGON WHEELS

For a catalog send \$4.95

WINDY HILL WOODS, P.O. Box 14169
KANSAS CITY, MO 64152

(816) 746-4695

The Woodworker's Dream

Repair and restore fine furniture fast and easily.

Quickwood Epoxy...when fillers, putty, or glue won't do:

- Shapes like modeling clay; sets like wood in 1/2 hour
- Easy to sand/carve, drill/tap, paint/stain/finish
- Solvent-free; won't stink or shrink!

Request free literature.

Polymeric Systems, Inc.

Visit our web site → www.polymeric.com

Attn: Table and Radial arm saw owners

Don't put it off any longer... visit us on-line and get the facts on one of the most innovative tools ever designed for precision saw alignment. You'll be amazed at how simple and easy the PARAGAUGE® saw alignment system is to use and how much time and money it saves!

www.PARAGAUGE.com

Accuset Tool Co. Troy, MI 1-800-343-6129

For the Woodworking Enthusiast!

Irish Mail Hand Car,
Sleigh, Benches
and More.

1-888-946-7819

www.woodkitsandplans.com



Figured Hardwoods

Sandy Pond Hardwoods, Inc.

Watch for us on HGTV

Quality
Lumber &
Flooring



Specializing
in Birdseye
& Tiger Maple

1-800-546-9663

www.figuredhardwoods.com



"The source for CMT router bits"

The Sommerfeld Ogee Raised Panel Set

CMT THE SOMMERFELD
RAISED PANEL SET



SALE

Reg \$243.90 Sale \$179.95

www.woodpeck.com 1-800-752-0725

COMPLETE SAWMILL FOR UNDER \$3000

CALL 1-877-LOGOSOL
FOR FREE VIDEO

WWW.LOGOSOL.COM

LOGOSOL

WOODWORKER'S MARKETPLACE

Look for the Reader Service Numbers on pages 100 & 101

118
SIPHON GUN

AN ECONOMICAL WAY TO SPRAY:

STAINS LACQUERS
PAINTS ADHESIVES

*Ideal for many
woodworking projects!*

**EASY TO OPERATE
EASY TO CLEAN
CONE SHAPED SPRAY
PATTERN**



1/2 oz. STANDARD SEALER JAR IS IDEAL
FOR STORING DIFFERENT COLOUR STAINS
OR PAINTS FOR QUICK, FAST SETUP

CRITTER
SPRAY PRODUCTS

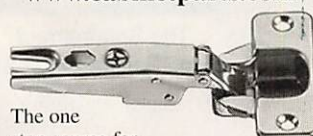
Website: www.wwdc.com/critter Email: critterspray@wwdc.com

Available at:

Lee Valley Tools Ltd. 1 800 871-8158
Woodworker's Supply 1 800 645-9292
The Woodworkers' Store 1 800 279 4441
Woodcraft Supply Corp. 1 800 225 1153

mepla Salice Grass

www.cabinetparts.com



The one
stop source for
all your cabinet needs

blum Wilsonart Laminates

Rent-A-Shelf

KV Accuride

COMPARE
& SAVE!

**WWW.
sunhillmachinery
.com**

(or call 1-800-929-4321)

Bandsaws, Chisel Mortisers, Cut-Off Saws, Drilling
Equipment, Dust Collection Systems, Edge Sanders,
Fingerjoint Systems, Joints, Moulders, Planers, Power
Feeders, Radial Arm Saws, Rip Saws, Round Pole Milling
and Sanding Machines, Routers, Shapers, Table Saws, Wide
Belt Sanders and more.

**SUNHILL
MACHINERY**

1208 Andover Park East, Seattle, WA 98188 • sales@sunhillmachinery.com

MONTHLY
SPECIALS!

www.librawood.com

*"The best prices
on the best tools"*

"Forrest" Saw Blades

"Whiteside" Router Bits

"Jet" & "Powermatic" Tools

Visit our website at

www.librawood.com

Bartley

Kit Furniture In Shaker,
Queen Anne, Chippendale
& Mission Styles.

Save hundreds \$\$\$
by creating your
own masterpiece.



Catalog at

1-800-787-2800

www.bartleycollection.com

PARENTS/GRANDPARENTS

Build your children/grandchildren their own picnic table
Great gathering spot for picnics, or just hanging out
Build this "Made Easy" picnic table for under \$30.00

From just one sheet of plywood

You receive a fully dimensioned plan

Send just \$4.95 check or money order to:

PROJECTS MADE EASY

P.O. BOX 5723

LAKELAND, FL. 33807-5723

The RIPS AW

the only truly portable
sawmill made.

With a weight of only 45 pounds,
this chainsaw-driven bandsaw
can easily be carried and operated
by one person. In just ten minutes
you can make the changeover
from chainsaw to sawmill and cut
trees where they fall. the RIPS AW
is capable of cutting up to 12 fpm (feet per minute) in softwood.
Video \$10. For a FREE BROCHURE, contact:

Better Built Corporation
789 Woburn St. Dept AW
Wilmington, NA 01887

ph: 978-657-5636

fax: 978-658-0444

"Free Brochure Download"

www.ripsaw.com



SOLID START, Elegant Finish.

OLD GROWTH

Quartersawn White Oak, Curly English Sycamore
and American Sycamore

NEW
and Matching, Tight Grained Veneers.

TALARICO HARDWOODS 610-775-0400 www.talaricohardwoods.com
RD #3, Box 3268, Mohnton, PA 19540
VISA / MasterCard

Enjoy Soapstone Warmth

Get More Heat & Comfort From Less Wood

- Soul-Satisfying Soapstone Warmth
- Comfortably Heat 1600 Sq. Ft.
- Burns Up To 12 Hours
- Clear Fire-Viewing Window



The Fireview - Our Most
Popular Model for 23 Years!



- Fine Furniture Design
- No Electrical Power Required-
Protects Against Power Outages
- Clean Burning EPA
Approved/UL Listed
- Factory Direct Prices

- Heirloom Stoves Handmade For 23 Years
- Six Month Risk-Free In-Home Trial
- Optional Colors For Your Décor

www.woodstove.com

AS
LOW AS
\$62.17
/MO

FREE CATALOG AND VIDEO

Name _____
Address _____
City/State/Zip _____
Phone () _____
E-mail _____

Woodstock Soapstone Co., Inc

66 Airpark Rd., Dept. 1284, West Lebanon, NH 03784

TOLL FREE 1-888-664-8188

Show Your TRUE COLORS

Color increases readership by 40%!

1-800-394-5157 ext. 12

WOODWORKER'S MARKETPLACE

Look for the Reader Service Numbers on pages 100 & 101

Attn: Table and Radial arm saw owners

Is your fence always needing adjustment and are you tired of inaccurate saw cuts? If so, what you need is the PARAGAUGE® saw alignment system. For complete product details, visit our very informative web site or, if you don't have internet access, call for a free brochure.

www.PARAGAUGE.com

Accuset Tool Co. Troy, MI 1-800-343-6129



TIMBER WOLF™

Band Saw Blades

Swedish Silicon Steel • 1/16" Through 2"

Call Suffolk Machinery at:
800-234-7297

Free Catalog:
www.suffolkmachinery.com

TIMBERKING MILL

Turns Timber into Cash!

Call NOW for FREE FACTS!
1-800-942-4406
ask for ext. 5Y32
TIMBERKING, INC. Dept. 5Y32
1431 N. TOPPING AVENUE
KANSAS CITY, MO 64120
www.timberking.com

MODELS START AT \$4999.00



GROFF & GROFF LUMBER, INC.

OVER 70 DOMESTIC AND IMPORTED SPECIES

Custom-Made Flooring

Curly Cherry 4/4 to 16/4 • Birdseye & Tiger Maple

Mahogany 30" + • Premium Walnut & Cherry

Matching flitches, 5/4 to 8/4 18"-40" wide

K.D. Lumber, Nationwide & International Shipping

No Order Too Large or Too Small

E-mail: wood4u@epix.net

(717) 284-0001 800-342-0001 FAX (717) 284-2400

LASER GUIDE

Pinpoint laser accuracy in lining up cuts on all miter chop saws, drill presses, etc.

Only \$59.95

FREE BROCHURE (800) 456-4987

custom wood turning

No catalogs available - we work your design.

"Turning Dreams Into Reality Since 1949."

Flutes/Reeds/Spirals - Lengths to 18'6" / Diameters to 20" / 1-1000 Pieces

PATRICK'S TURNING POINT LLP

457 Industrial Drive, Barnesville, GA 30204

800-841-4619 • 770-358-4700 • ptp@accessunited.com

Get a Free Copy of our
**CATALOG for
WOODTURNERS**

Call Toll Free...

1-800-683-8876

or write... Packard Woodworks PO Box 718 Tryon, NC 28782

E-Mail Address... packard@alltel.net



"The Woodturners' Source"

WOODWORKER'S CLASSIFIED

ACCESSORIES

GLASS SOURCE for WOODWORKERS. Glass and mirror custom cut, beveled, edged, etched, or grooved to your specifications. Shipped direct from our shop to yours. Call for free brochure, inquiries, or to place an order. Glass Source: 1-800-588-7435.

SPRAY-ON SUEDE. Line boxes easily. FREE brochure (sample included). DonJer, 13142 Murphy Road, Winnebago, IL 61088. 1-800-336-6537. www.donjer.com

BAND SAW BLADES

TIMBER WOLF® Low Tension, Swedish Silicon Steel, Available 1/16" thru 2". Free catalogue. Suffolk Machinery Corp., 1-800-234-7297; www.suffolkmachinery.com

BUSINESS OPPORTUNITIES

BUNKBEDS. Clear \$300/day making Bunk Beds. Start at home in your spare time. 800-382-3180 ext 1594.

COUNTRY CRAFTS. Earn \$2000/weekend making crafts and small wood furniture. Call (800)382-3180 Ext. 7120

BUILD BUNK BEDS for high profits in your own shop or garage.

Free information
318-797-6818

www.woodcrafteronline.com

Woodworking business for sale. Ideal second income. For complete details, email woody@bossig.com or call 509-546-5938

HELP WANTED

\$400 WEEKLEY ASSEMBLING Electronic Circuit Boards/Products. SASE: Home Assembly - AW Box 216 New Britain, CT 06050-0216

MUSICAL SUPPLIES

KITS, Blueprints, and Supplies for harps, dulcimers, banjos, guitars and more. Contact **Musickmakers Kits** for a free catalog. 1-800-432-5487. www.musikit.com

Build your own violin, guitar, or dulcimer! Free catalog featuring kits and all the tools, finishing supplies and instructions you need to build your own instrument. Stewart-MacDonald, Box 900-W, Athens, OH 45701. Call 800-848-2273, www.stewmac.com

SCHOOLS/INSTRUCTION

Summer Woodworking Boot Camp 6 week intensive for the non-professional woodworking enthusiast. www.nesaw.com 413-527-6103

WOODS/VENEERS

HARDWOODS cut to order. 120 species in stock. www.colonialhardwoods.com Springfield, VA 22153. 800-466-5451

SAWMILL DIRECT. Bloodwood, Cocobolo, Bocote, Tulipwood 4/4, 8/4, 12/4, 16/4. Select Ebony billets \$3.00 lb. **Tropical Exotic Hardwoods** (888)434-3031.

www.anexotichardwood.com

To place an ad in the Classified call 1-800-394-5157

Oops!

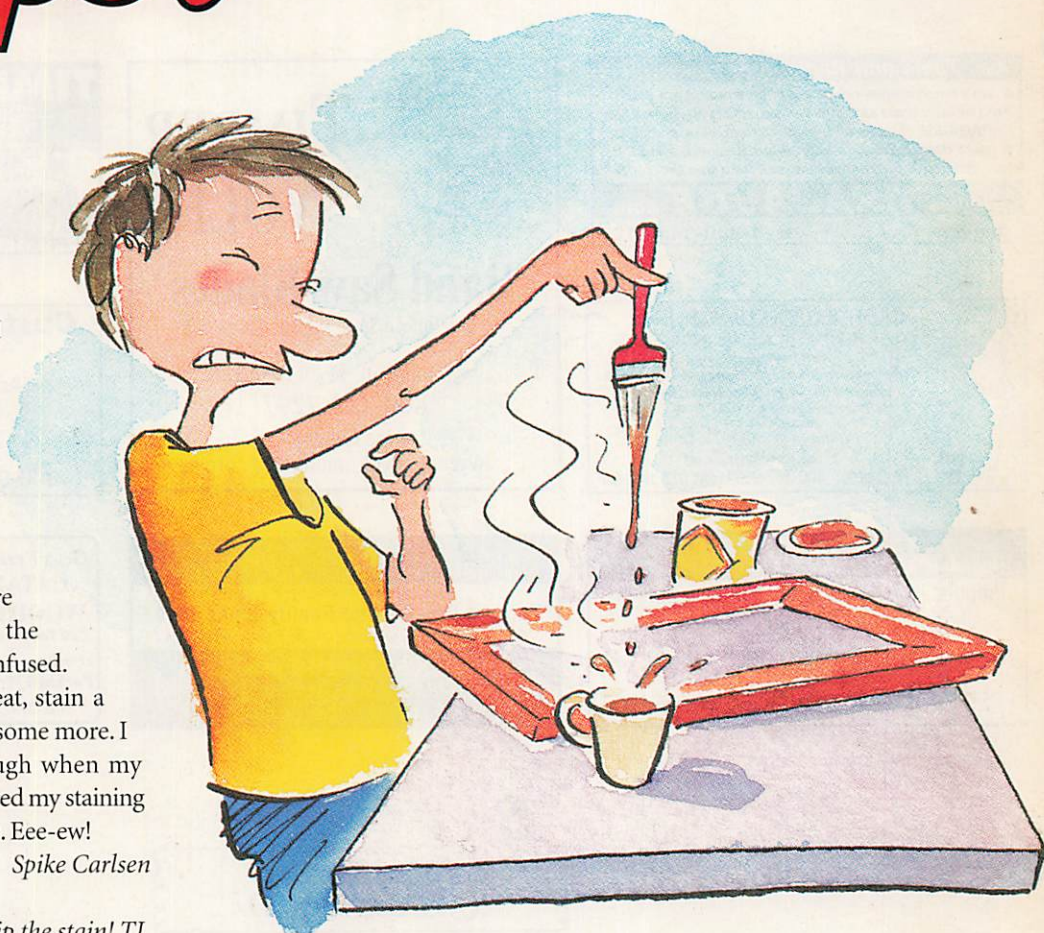
Edited by **Tim Johnson**

Stain-Flavored Coffee

Last Saturday morning I was staining a large picture frame I had made. To combat the chill in my garage workshop, I'd brought along a cup of hot coffee. I purposely put the can of stain on one side of the picture frame and my coffee on the other, so I wouldn't get confused. Everything was going great, stain a bit, sip some coffee, stain some more. I was about halfway through when my mind wandered and I dipped my staining brush right into my coffee. Eee-ew!

Spike Carlsen

Spike, at least you didn't sip the stain! TJ



Holey Tambour

My mother needed more light for doing paperwork at her roll-top desk, so my father decided to install a small fluorescent fixture. With a keyhole saw, he carefully cut a hole in the back wall of the desk, underneath the pigeonhole section and just big enough for the plug at the end of the cord. He fished the cord through the hole and plugged in the light. It worked perfectly. My mother was thrilled, but when she tried to close the tambour, it wouldn't budge. Time stood still for Dad as he removed the cord from the hole and closed the top on the desk. Sure enough, the hole went right through the middle slats of the tambour.

Ron Frame

Ron, it looks like your dad will be replacing some tambour slats. Here's a tip for him. The new slats will be less noticeable if he slides the remaining undamaged slats together and adds the new ones at the back end of the tambour. TJ

If you have a woodworking blunder you're willing to share, send it to us. We pay \$100 for each one we print. Send to: **AW Oops!, American Woodworker, 2915 Commers Drive, Suite 700, Eagan, MN 55121.** Submissions can't be returned and become our property upon acceptance and payment.

DON'T JUST IMAGINE IT ROUT IT!

with Viper® Carbide Router Bits

Over 400 profiles to choose from



Straight

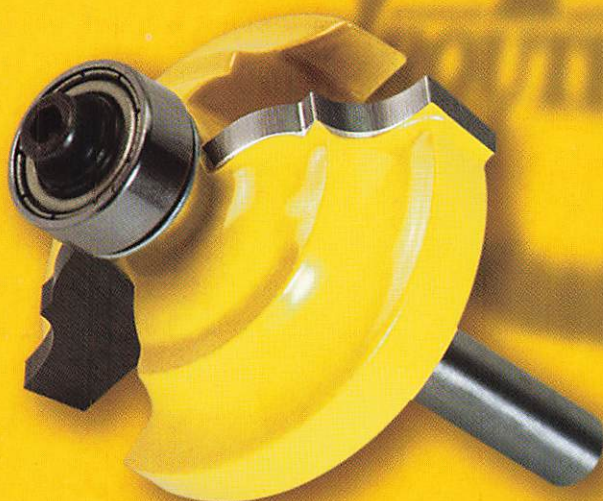
Forming



Grooving



*Laminate
& Trim*



Bring out the beauty of the wood in your projects. Signs, picture frames, moldings, furniture, cabinet doors. Simple or complex, if you can imagine it, you can rout it with Viper router bits. With finely honed RazorSmooth carbide edges, high-strength brazing, precisely machined anti-kick bodies and anti-stick coating, Viper consistently delivers clean, smooth, burn-free cuts. And Viper bits are made with care in West Jefferson, NC, by folks who know woodworking.

T h e A r t o f R o u t i n g

Oldham

www.oldham-usa.com

1-800-828-9000

Taking Band Saws to New Levels



You have heard about them, you know that they are called the best, now it is time to own one. Our band saws have won an Editors Choice Award and our customers rave about them. But don't take our word, call today and order your free demonstration video and see for yourself why they are in such great demand.

Designed by Laguna Tools and imported from Italy, we have the finest and largest selection of European band saws in the country.

- Best specifications in the industry
- Dynamically balanced cast-iron flywheels
- Wider blades for straighter and smoother re-sawing
- Euro guides
- Conforms to the toughest dust standards
- Quiet and smooth with more power
- Robot welded steel frames
- More resaw height
- Rack and Pinion
- Easy blade change
- Mobility kit available
- Manufactured in Italy
- Order a custom made band saw to suit your needs.

LAGUNA TOOLS

You Build With Wood, We Build With Trust.

800-234-1976

17101 Murphy Avenue Irvine, CA 92614
(949) 474-1200 • FX (949) 474-0150

800-234-1976

100 Central Avenue South Kearny, NJ 07032
(973) 491-0102 • FX (973) 491-0591

E Mail: mail@lagunatools.com Web: www.lagunatools.com